The Executive's Guide to Mastering the Web in Business

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Internet Pundit DONNA HOFFMAN Says Web Success Means Going With The Flow

ALSO INSIDE

Payback Time—Calculating Web ROI

PLUS Why Intranets Buy Outside Content

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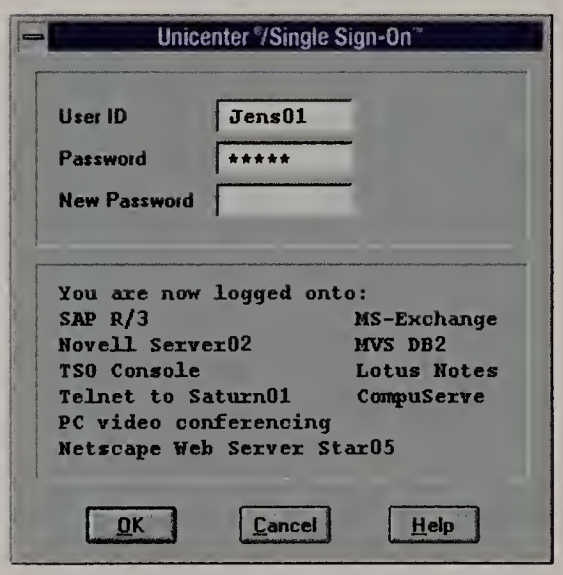

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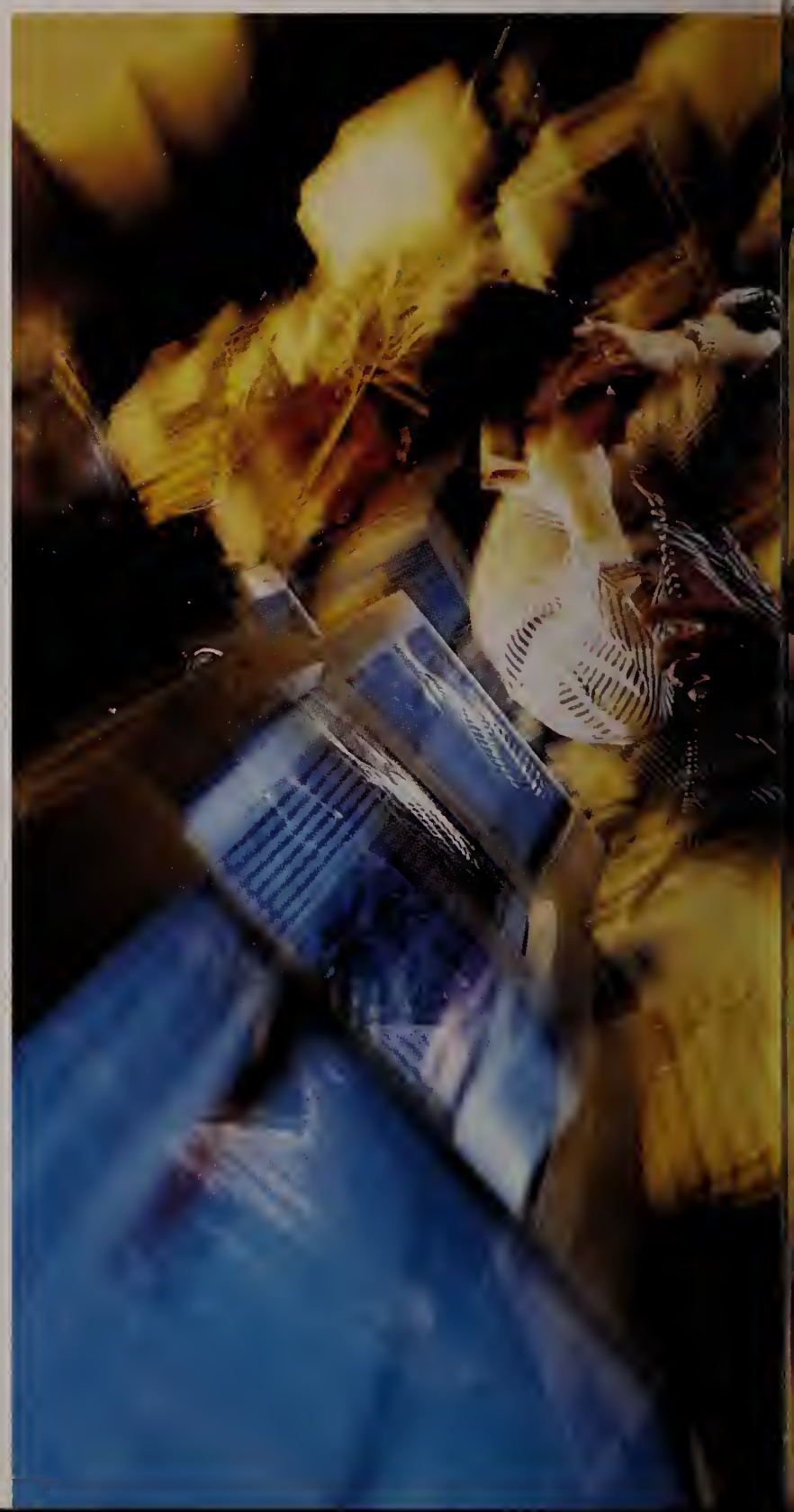

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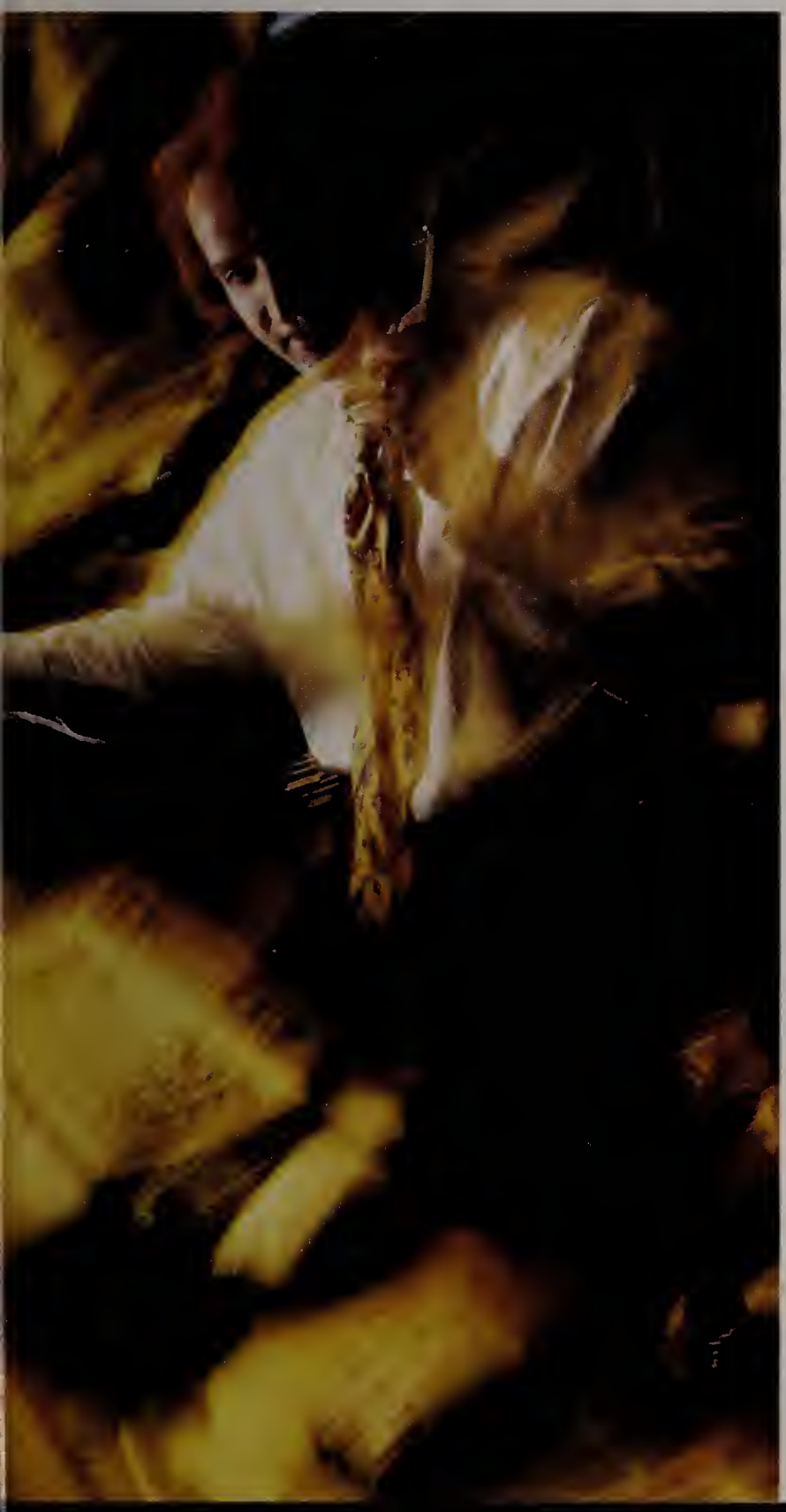

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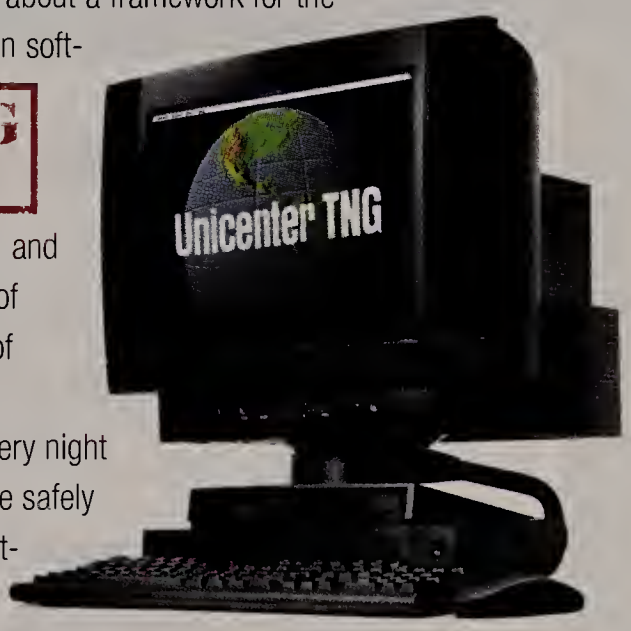

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WEBMASTER®

April 1997
VOLUME 1, NUMBER 10

FEATURES

Go Figure

26

▼ Now that their Web initiatives have swallowed a few million dollars and are roaring for more, corporations are starting to ask hard questions about payback.
By Derek Slater

Buying Power

34

▼ Intranet content must be consistent, reliable and ready to post—three reasons why buying is better than building.
By Jennifer Bresnahan

Protect or Serve

40

▼ Tight security is a must, but too much security can keep customers as well as intruders away from your business. Experts talk about choices, trade-offs and doing what has to be done.
By Daniel P. Dern

Tales of Hoffman

48

▼ When she's not studying its business potential, Donna L. Hoffman is defending the Internet's freedom.
By Anne Stuart

Cover image by Mark Tucker

Now Playing

Some companies require that their Web champions justify Internet expenditures up front. Others look at the Internet and intranets as necessary infrastructure—much like telephone lines or highways. Join the participants in *WebMaster*'s new interactive forum, Payback Time: Determining ROI from the Web, at *www.cio.com/forums/roi* to see how companies are justifying their investments.

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WEBMASTER

DEPARTMENTS

Home Page 6
- ▼ Buying the Cow

Threads 8
- ▼ Planes and Trains
- ▼ Inner Growth
- ▼ CEOs Click Here
- ▼ Making the Grade Available

- ▼ Sale-throughs
- ▼ Simplify, Simplify
- ▼ Off the Cybershelf

Netrepreneurs 14
- ▼ A Conference Call

Index 60

Browser 64
- ▼ Software Safari
- ▼ Being There
- ▼ Bolts out of the Blue
- ▼ Bye-Bye Phone
- ▼ Safe Passage
- ▼ Smart Network Tricks

COLUMNS

16

Customer Interface
Do You Know Me?

▼ At more and more Web sites these days, the answer is "Yes, I do know you. Maybe better than you realize."
By Jim Sterne

22

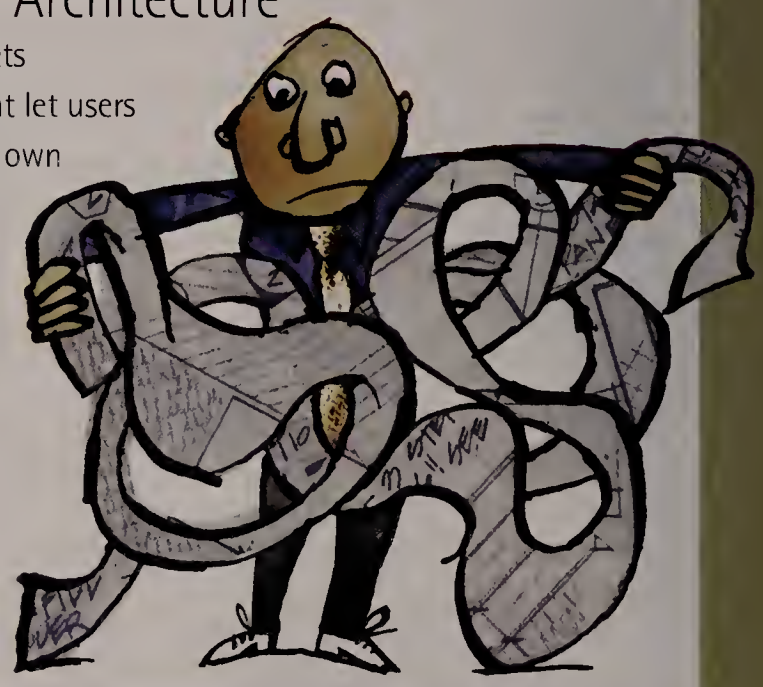
Reporter's Notebook
Going South

▼ They are beer distributors, bank customers and miners in the desert, and they are enjoying the benefits of being wired in South America.
By Peter Fabris

56

Webmasters' Guild
Modern Architecture

▼ Information architects create blueprints that let users easily navigate their own paths to knowledge.
By Matthew Cutler



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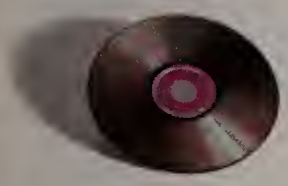

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Buying the Cow

When an editor here first told me that companies were buying third-party content for their intranets, I was a tad surprised. Assuming that many organizations with intranets also give their employees Internet access, it seemed counterintuitive to shell out biggish bucks for content while simultaneously opening up a repository of information so vast that it makes *The Columbia Encyclopedia* look like a Little Golden Book. Why buy the cow, after all, when so much milk is available gratis?

There are several good reasons, as Staff Writer Jennifer Bresnahan explains in her story "Buying Power" on Page 34. For one thing, much of the information that companies are buying doesn't exist on the public Internet, so if they want employees to have it, they have to round it up themselves. Then there's the added value that comes from content providers who customize material for paying clients, aggregating and filtering relevant news for a particular industry or company. And buying material outright helps to shield organizations from charges of copyright violation (a danger many ignored in pre-Web days when managers merrily ran off 500 copies of the latest *Fortune* cover story to distribute to their nonsubscribed staff members).

But one of the strongest motivators for companies' buying content may well be fear of the Internet. I'm not talking about the fear that employees will fritter away their nine-to-fives reading porn and trading urban myths; I'm talking about the fear that they will use the Net as a way to rapidly obtain information that is critical to their jobs. If that prospect doesn't set you quaking in your boots, think of it this way: How would you like it if the market watchers, researchers, competitive intelligence specialists, analysts, librarians and other assorted external data harvesters employed by your company started pulling stuff off the Internet and inserting it willy-nilly into the reports on which you base critical business decisions? It would be like sending children into the forest and telling them they can eat anything they see growing there.

As an experiment, I sent an e-mail to my 36 editorial colleagues asking them to go out on the Web and bring back a figure for the number of Internet users worldwide. Fourteen responded (the rest were obviously too busy reading about microwaved poodles) with numbers ranging from 5 million to 75 million, and only two of those numbers were the same. The confusion is understandable: Searching for the same information on E-land (*www.e-land.com*), a site that styles itself as "the place" for statistics about the Web, I found 14 different numbers from 15 researchers. (Only Hambrecht & Quist and Hoffman/Novak came up with the same number: 10 million in 1995. And even then, Hambrecht & Quist's figure referred to users worldwide,

PHOTO BY JOHN SOARES

while Hoffman and Novak took into account U.S. users only.)

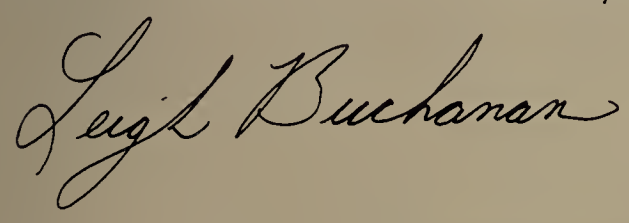
Now let's pretend my 14 colleagues are employed by various divisions of your company. And let's say that each has been given the mission to report back on, oh, the average salary for a webmaster with two years' experience or the consumption of artificial sweeteners in Latin America. Each plugs keywords into a different search engine and goes to the site that tops the resulting list. Each finds a credible-sounding source and relies on that source's data to create a job description or a report evaluating your company's prospects for sell-

ing low-fat desserts in Mexico. None of the figures found on the Internet agree, and, consequently, no two employees draw the same conclusion. Pandemonium reigns.

The information on which companies base decisions must be three things: reliable, timely and consistent. That's why executives enter into relationships with pricey consultants and subscribe to premium research services. And it's why companies like Dow Jones & Co., Bloomberg LP and Dun & Bradstreet can still charge for their services while newcomers to the information market are giving it away on every street corner on the Web. If there are 13 ways of looking at a blackbird, it makes sense to pick the way that has worked for you in the past. Brand is beautiful.

This is not to say that the Web is not a fabulous source of information or that free information is necessarily of lower quality than information that is paid for. But companies that allow employees to do research on the Web must exercise quality control. They must teach employees the difference between good information and bad information and where to find the former. (One of Leonard Fuld's books on competitive intelligence, such as *The New Competitor Intelligence*, is an excellent place to start. Check out *www.fuld.com/newcomp.html*.) They must identify reliable sources online and make sure that all employees are working from the same Web page. And—given that many sites publish quickly without subjecting material to serious review—they must emphasize that no information pulled from the Web should be accepted at face value. Ten years ago, when I was a researcher at *TV Guide*, we were required to find a minimum of two corroborating sources for every "fact" that appeared in the magazine, down to the question of whether McLean Stevenson purchased his underwear in the supermarket. (He did.)

The complaints about information overload are somewhat off-base: You can never have too much *good* information. Companies using the Internet must do whatever it takes to ensure that the information they find online is Grade A. Even if it means buying the cow.



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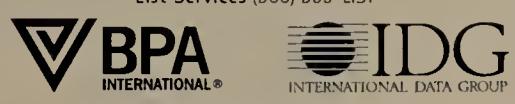


PROFILE

Planes and Trains

DECEMBER WAS an eventful month for The Boeing Co. (*www.boeing.com*). The aerospace giant announced its intent to merge with McDonnell Douglas Corp. and acquire two divisions of Rockwell International Corp., moves that will double its employee population to 200,000. Now Boeing must get its new managers up to speed while helping existing managers flourish in an environment that is changing as rapidly as the terrain under a 747.

In response, Fred Kelley, manager of marketing, communications and technology at the Boeing Center for Leadership and Learning, is directing an ambitious project to put all information related to training on the company's intranet. Managers and eventually employees will use the Manager's Resource Catalog, currently in beta, to learn about, register for and retrieve media elements of in-house and outside courses. Soon, Kelley hopes, they also will take classes online and use the site to plot their career paths.

The Manager's Resource Catalog is just that—a catalog, created with software from ICat Corp., which normally caters to external shopping sites. By this summer, it should include everything currently published in Boeing's 100-page paper catalog of courses; managers will log on, select their classes, register and be notified about available space. There's also a feedback button, "so people can use the comments of their peers to help them decide whether to take a course," Kelley says.

Kelley and his webmaster, Rikel Getty, are working toward on-site training as well. Getty is already using Shockwave streaming video and Progressive Networks Inc.'s RealAudio to deliver multimedia company news, several courses, such as lectures by visiting speakers. "The objective is to have the material on your desktop when you want it rather than going to a conference or a class at a certain time or date," Getty says.

Offering whole courses is the next step, with required programs the most obvious candidates. Kelley also wants universities

Work, Work, Work

Number of Internet-related jobs that will be created in 1997: 186,280

Percent increase over 1996: 86

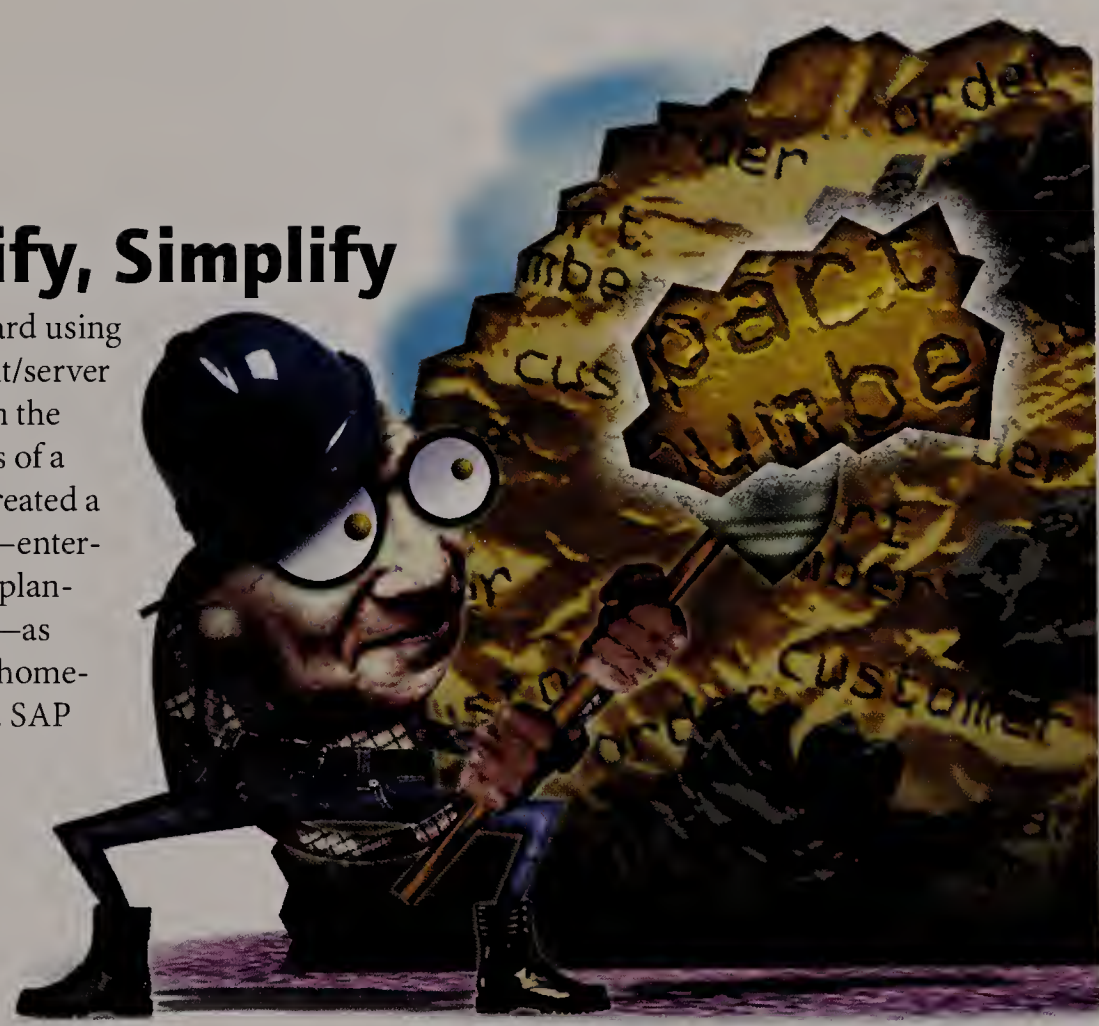
SOURCE: *Christian & Timbers Inc. (www.ctnet.com); based on interviews with 2,500 companies. Includes jobs in Internet technologies and Web site deployment.*

TRAINING TAKES OFF: Fred Kelley wants Boeing employees to manage their education online.

that train Boeing managers to deliver courses over the Net, thus reducing travel expenses and opening up those courses to more people. (The company would like to export education as well: In his previous assignment, Getty worked with a group that was making training available to Boeing's aircraft customers on CD-ROMs.)

Perhaps the most innovative feature of the Manager's Resource Catalog, however, will be a tool that lets managers—and eventually other employees—plot their career paths with the company. "Someone would create a profile saying, 'My career goal is to be a manager in two years, a mid-level manager in five years and an executive manager in 15 years,'" Kelley explains. "[The program] would lay out the skills and courses they would need in order to do that. Then when a course came up, anyone who had that requirement would automatically be alerted. It's part push, part pull—like PointCast for personal skills." *–Leigh Buchanan*

Simplify, Simplify



THE TREND toward using packaged client/server software to run the basic processes of a business has created a new category—enterprise resource planning software—as well as a lot of homework for users. SAP AG's R/3 client/server package, for example, requires in-depth training that for occasional users falls into the more-information-than-needed category.

With its latest release, R/3 release 3.1, SAP has created a browser link into its complex software that lets employees, customers and suppliers scoop out chunks of basic information. At the core of the new system is a set of software objects called business application programming interfaces (BAPIs) that define basic business processes such as "order," "customer" or "part number" so that companies can exchange order requisitions without getting data entry clerks involved or setting up an expensive EDI link. The BAPIs—there are now more than 100 of them available on SAP's Web site (*www.sap.com*)—are like software extension cords that developers (and SAP's competitors) can use to link their systems with R/3. IS departments can build their own Internet application hooks into the R/3 system or use SAP's predefined components, such as an employee self-service HR application that updates personnel information over the company intranet.

Most of the Internet hooks into R/3 are small, designed to skim the surface rather than delve too deep into data-intensive transaction processing. That's because the Internet still looks more like a two-lane road than a highway, says Barry Wilderman, vice president of the Application Delivery Strategies service at Meta Group Inc. He argues that for now, anyway, the BAPIs are mostly a neighborly gesture, designed to respond to complaints that SAP is unwilling to give anyone the software keys to its complex system. "They're the 800-pound gorilla that's trying to be a good citizen in the world," says Wilderman. *–Christopher Koch*

Inner Growth

Analysts' blue-sky predictions about intranet growth are playing out on the ground, according to a survey by Delphi Consulting Group Inc. (*www.delphigroup.com*). Delphi asked 600 business professionals about their companies' activities on the inner Web. What's interesting is not the quantity of organizations that reported having intranets but rather the quality of the work they are doing there.

Companies with more than three-quarters of their desktops connected to an intranet **37%**

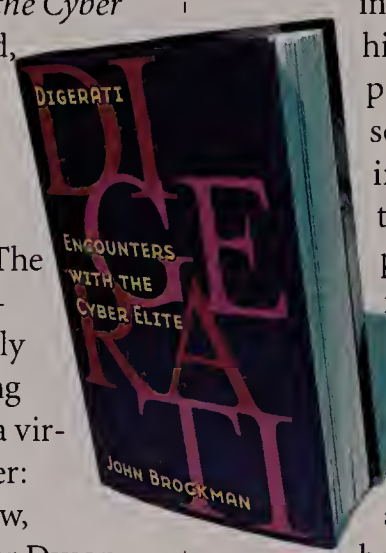
Companies that expect to have more than three-quarters of their desktops connected in five years **82%**

Companies that think core business applications should be targeted for Web deployment **97%**

Current intranet activity involving line-of-business applications and collaboration **32%**

Off the Cybershelf

"THIS IS A BOOK about a group of people who are reinventing culture and civilization," writes author and literary agent John Brockman in the introduction to *Digerati: Encounters with the Cyber Elite* (HardWired, 1996). "They are not on the frontier, they are the frontier."



No question. The list of pioneers—they can't honestly be called anything else—reads like a virtual social register: John Perry Barlow, Steve Case, Esther Dyson, Bill Gates, Mike Godwin, Jaron Lanier, Scott McNealy, Howard Rheingold, Paul Saffo and 23 others.

Those luminaries aren't profiled so much as they are captured in quick snapshots taken from several viewpoints. Each snapshot consists of Brockman's comments on the subject's place in cyberspace history, a few pages of the person's own musings and a smattering of impressions and recollections from other digerati. The fragmented, interactive approach is the book's greatest strength—and its greatest weakness.

Brockman initiates each of his subjects into the fraternity with a descriptive name. Virtual Community author Rheingold is "The Citizen." Futurist Saffo is "The Oracle." Analyst Dyson is "The Pattern-Recognizer." But a few seem overcharitable or even hyperbolic. America Online CEO Steve Case, fielding persistent customer complaints, is more "The Diplomat" than "The Statesman." And while he is indeed a visionary, does *Wired* Executive Editor Kevin Kelly really deserve canonization as "The Saint"?

In some cases, the rapid-fire jump from voice to voice works beautifully, creating a lively cocktail party atmosphere. And while most of Brockman's guests say only the nicest things about one another, they do engage in some dishing. Here's Rheingold calling *Silicon Snake Oil* author Cliff Stoll "off-the-wall, charming and nuts." Here's Gates dismissing Barlow as one of those people "who are famous because they're famous." And here's publisher David Bunnell saying he doesn't have time to read books by sociologist-psychologist Sherry Turkle, adding: "I wonder about people who do."

Brockman clearly knows his subjects—many are clients or friends. And they clearly know one another, as well as the communications revolution that unites them. Such insider knowledge achieves greater intimacy than a disinterested biography could. Still, there are times when it all seems a bit too cozy. *–Anne Stuart*

Wonder Years

Number of American households online at the end of December 1995: 11.3 million.

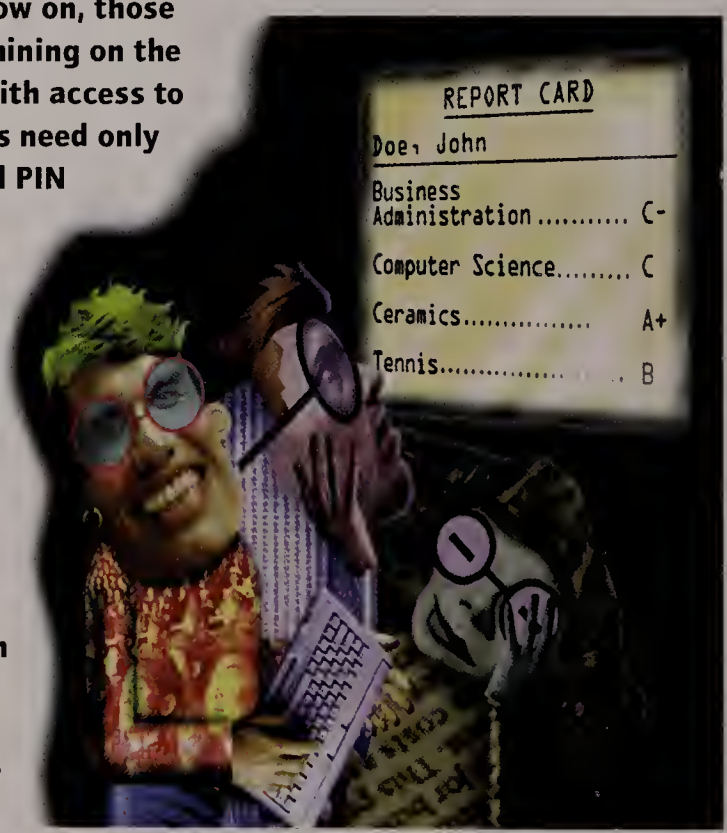
Number of American households online at the end of December 1996: 18.1 million.

SOURCE: *Telecommunications Reports International Inc.'s Information & Interactive Services Report, Jan. 31, 1997*

Making the Grade Available

Students at the University of Utah (*www.utah.edu*) got some good news and some bad news recently. The good news: They will never again experience the dread of opening their mailboxes and finding paper printouts of last semester's grades. The bad news: From now on, those grades will be ever present, shining on the monitors of every computer with access to the school's intranet. Students need only punch in their ID numbers and PIN codes for an explanation of why their applications to Harvard Medical School came back unopened.

University of Utah Director of Admissions and Registrar Ralph Boren reports with pleasure that the new system is expected to save nearly $30,000 a year in postage alone and a smaller amount in printing and paper costs. The students' verdict remains out but might well vary with their GPAs. *–Art Jahnke*



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WM497

CEOs Click Here

THE KEYWORD query "job search" on AltaVista retrieves about 30,000 sites. Somewhere in there should be options for senior-level executives, right? Not so, says the career management organization Exec-U-Net Inc. (*www.execunet.com*).

Executives with salaries above $75,000 will find slim pickings in cyberspace for several reasons, says Exec-U-Net's executive director, David Opton. First, companies don't post top job openings because they fear being bombarded with e-mail from unqualified applicants. They also might not want the world to know they're looking for someone at that level—especially if the current position holder doesn't know he's leaving. Finally, the skills and characteristics desirable in a senior manager don't lend themselves to keyword searches. "The three major characteristics that people are looking for are industry-specific experience, functional expertise and leadership," Opton says. "That stuff you garner from face-to-face interviews."

Rather than ad surf, Opton advises, executives should join online clubs and chat rooms to forge relationships with other professionals. They should also research potential employers through the Web and check out bulletin boards to keep up with industry trends.

Not everyone agrees with Exec-U-Net's findings. Doug Young, CIO of executive recruiter Management Recruiters International Inc. (*www.mrinet.com*), says that even though ads for CEOs often don't appear, listings for such senior positions as CIO or vice president of sales are common. "If you think about the demographics of the Web, you'll see that senior-level executives are using it to find jobs," says Young. "Seventy-five percent of the people on the Internet have a college degree, are between 35 and 45 years old and are making average salaries of $60,000 or better. These are among the people that are using the Internet to do job searches."

–Jennifer Bresnahan WM

Company Lines

Percentage of publicly traded corporations that have Web sites: 79

Percentage of those Web sites that post the corporation's full annual reports: 54

SOURCE: *Straightline Internet Communications Survey, 1997. Based on a Straightline International survey of corporate communications and investor relations professionals at 2,000 publicly traded companies.*

Sale-throughs

When The Procter & Gamble Co. announced last spring that it would base its Web advertising payments on click-throughs rather than impressions, many online publishers decried the move as the death of Web ads. Now ORB Communications & Marketing Inc. (*www.orbnet.com*) has taken the pay-for-what-you-get model a step further. ORB created a banner ad that, when clicked, takes visitors to a minisite—a POPsite—where they can buy a product or service, online or off. Payment to the site owner for those direct marketing-inspired ad placements, which ran for about a month on sites such as Excite (*www.excite.com*) and CuisineNet (*www.cuisinenet.com*), is based on sales rather than click-throughs or even page views.

ORB President Andrew S. Pakula won't say what percentage of sales advertisers share with host sites (the direct-marketing model generally shares between 5 percent and 30 percent), but he claims that a recent trial run with ads for Nabisco Direct was successful. ORB hopes to start placing POPsite advertisements for more companies this spring. *–Heath Row*

ILLUSTRATION ABOVE BY BRANT DAY; BELOW BY OCTAVIO DIAZ

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I R O N L G H T

A Conference Call

A SPINOFF FROM *THE WELL* IS BETTING THAT CONVERSATION WILL BE THE NEXT BIG THING ON THE INTERNET **BY ANNE STUART**

IN A PAGE ONE STORY last January, *The Wall Street Journal* examined the shaky state of electronic publishing, calling it "more a case study in failed expectations than outright failure" and warning readers to "stay tuned for more turmoil."

Normally, such an analysis—which in this case appeared in the *Journal*'s print and Web editions—might provoke a few letters to the editor. But instead of opting for one-way correspondence, more than 40 readers debated the subject at length in a Web forum linked to the article. Ten days later, they were still talking.

That type of instant virtual community is just what the people behind Well Engaged LLC *(www.wellengaged.com)* had in mind when they created an all-in-one package of conferencing software, host servers and consulting services. Well Engaged is betting that conferencing will be The Next Big Thing on the Web—not just for publishers but for anybody with an external or internal site. Content may be king for now, they say, but ultimately the people will rule.

"The old model of 'We're going to pump out content to the consumer' is dying," says Maria Wilhelm, a former Time Inc. journalist and new-media producer. Wilhelm is president of both Well Engaged and The Whole Earth 'Lectronic Link Inc., the company behind The Well, a celebrated Sausalito, Calif.-based conferencing system that is credited with perfecting the art of online group discussion. Currently, most Internet and intranet sites offer little opportunity for users to interact with one another. Conferencing motivates site visitors to stay longer and encourages them to repeat the experience.

Well Engaged officially spun off from The Well in September 1996. An outgrowth of the *Whole Earth Review*, The Well *(www.well.com)* started life as a bulletin board system and evolved into an online service with more than 10,000 members worldwide. Bruce Katz, who founded the Rockport Shoe Co. and later sold it to Reebok International Ltd., owns both businesses. Today, Well Engaged and The Well share a building and administrative staff.

Key to The Well's success are its more than 260 online conferences on topics as wide-ranging as freelance writing, food, jazz and parenting. Its membership, populated at first by writers, counterculture leaders and high-tech early adopters, was debating online before most people ever heard of the Internet. In fact, that's all members do: The Well has no prepared content.

MARIA WILHELM: selling the benefits of intelligent conversation

PHOTO BY KENT HANSON

"There were really interesting things happening here that could have great application to the Web as a whole," Wilhelm says, explaining what lured her away from Time's Pathfinder service, where she and Jim Kin-

sella, now general manager of the Microsoft Corp.-National Broadcasting Co. joint venture MSNBC, developed the company's Web publishing strategy and negotiated content deals. Above all, she says, "The Well has a persistent audience. Most Web sites do not."

But, she insists, there's no reason Web sites can't duplicate—and profit from—the intelligent conversation that's at the heart of The Well. So when The Well rolled out its new conferencing software last fall, it launched a sibling company to market that software as well as customized servers and The Well's expertise. (Depending on the amount of customization required, the full Well Engaged package costs between $3,500 and $10,000.)

Content may be king for now, but ultimately the people will rule.

Apparently, they're onto something. While Wilhelm says it's too early to discuss return on investment, Well Engaged snapped up some big names right out of the gate. In its first few months, the company signed not only the *Journal* but also Warner Music Group Inc., Playboy Enterprises Inc., Web innovator Howard Rheingold's Electric Minds Inc., Quote.com Inc. and CMP Media Inc.'s TechWeb, among others.

Well Engaged's format differs from those of most other conversation products. It isn't live chat. It's asynchronous, so users can participate any time. And discussions are chronological, which Well officials say is more like real conversation than when responses are linked by subject. "We're not great fans of threaded conversation, because it's fragmented," Wilhelm says.

From the host's perspective, Well Engaged accommodates a variety of business models, including—as its client roster shows—subscription-based and ad-driven sites. And Well Engaged requires no installation because the software runs on The Well's servers.

That was the attraction for the *Journal (www.wsj.com)*, Well Engaged's first major client, which began beta-testing the system by setting up political discussion conferences just before the 1996 Republican National Convention.

Since then, the *Journal* has used Well Engaged for a variety of moderated conferences that generally have resulted in high-quality conversation, says Neil F. Budde, editor of the newspaper's subscription-based interactive edition.

But while Budde says "there are revenue opportunities to be had" in conferencing, he acknowledges that they're tough to quantify. Instead, he defines the value this way: "It helps draw traffic to the site. It helps bring repeat visitors. It helps make us a place where they want to stay longer."

Quote.com *(www.quote.com)*, an Internet-based financial information service, uses Well Engaged conferencing to help its subscribers make investment decisions, says Casey Cuddy, senior product manager. "We have the ability to attach very current content," such as breaking news stories and press releases, he says.

That approach also appeals to educational institutions investing in distance education. Golden Gate University *(www.ggu.edu)* is using Well Engaged to move several classes online, offering lectures, discussions and links to outside resources. For instance, says Americ Azevedo, the university's senior information technology consultant, Well Engaged could link directly from a class discussion about tax preparation to tax information sites on the Web. The ROI comes from savings: Some instructors have reduced time spent in the classroom by 50 percent, and some have gone completely to distance learning. "That's 50 percent less real estate," Azevedo says, referring to classroom overhead costs, "50 percent less for gas and parking and up to 100 percent less for paper."

Playboy *(www.playboy.com)*, meanwhile, is merging Well Engaged into its members-only Playboy Cyber Club. "Playmates," photographers and empire founder Hugh Hefner will drop in to talk to readers, who can also use the software to query the Playboy Advisor. Naturally, the conferences include links to the site's primary nonverbal attraction: those naughty GIF files.

While incorporated as a separate business, Well Engaged is built on the lessons, as well as the brand name, of its progenitor. Chief among those lessons is the amorphous nature of online community. "It isn't something that can be packaged or pumped out like some massive content offering. Community is something organic," Wilhelm says. "It's not something that can be defined, forced or managed from the outside." WM

Senior Editor Anne Stuart can be reached via e-mail at astuart@cio.com.

www.wellengaged.com

Do You Know Me?

AT MORE AND MORE WEB SITES THESE DAYS, THE ANSWER IS "YES. MAYBE BETTER THAN YOU REALIZE." BY JIM STERNE

Whether or not they're carrying American Express cards, sophisticated business-to-business Web users and "screen-age" Net game players alike expect your site to remember them from one visit to the next. Whether you use cookies, embedded URLs, passwords or the new, server-based tools to retain information about your visitors, there's no way to overestimate the value of recognizing them the next time around. Personalization allows you to pre-fill forms, dynamically select content and track visitors' preferences and pathways. Users needn't reintroduce themselves at the beginning of each session, and you can design programs that cater to their desires as well as capture valuable information about them for future reference.

While personalization's value to your organization and your visitors is readily apparent, you must still wrestle with a few key issues to ensure that your efforts do, in fact, work in your favor. From a marketing perspective, the issue is less about invading privacy than creating barriers to sales and customer service.

American Express Co. learned years ago that people don't like to be recognized too soon. Customer service representatives who used a caller ID system to answer the phone—"Hello, Mr. Smith, this is Sally at American Express. How can I help you?"—were repeatedly met with distaste and distrust. It didn't take long for AmEx to change its approach, waiting for callers to identify themselves first. Once a customer has given his name, the company found, he doesn't mind the agent using it. "Yes, Mr. Smith, I have your account records in front of me now" becomes perfectly acceptable, even to customers who notice that it took no time at all for the service rep to find those records. Such a response can even leave the positive impression that a company's computers are blindingly fast. More important, it provides the customer with that all-important feeling of being in control of the conversation. Turns out the correct answer to "Do you know me?" is "Not until you introduce yourself."

When the Internet was young, we all got used to the idea of anonymous FTP. What a pleasure it was to wander from site to site, like a bee flitting from flower to flower, confident that those offering data did so with the most altruistic intentions. Internet culture developed with a strong expectation of anonymity. Then came commerce and its incessant desire to know all.

Marketing is not just getting the message out to the masses but also keeping an ever vigilant ear open to them. Fully half of marketing is knowing on what people might like to spend money. For that knowledge, we must pay strict attention to what people are saying, what they are thinking and why they are—or are not—buying. To the customer under the microscope, such scrutiny can be a little unnerving.

We all prefer to shop without being hovered over. The customer who shops in splendid isolation has the upper hand when it comes time to negotiate. Frankly, I don't want the car salesman to know that I've already decided to buy a car and that this afternoon is the only time I have to do so. My goal is to sustain the illusion of being a savvy, aloof buyer for as long as possible. Bargaining is much more difficult when sellers know they have a live one on their hands. Furthermore, customers worry that personal information collected for one reason will be used by someone else for another reason entirely. And that someone else may not be someone from whom they want to hear.

The fact is, a surfer's every move can be recorded. But that doesn't automatically turn site owners into nefarious viola-

ILLUSTRATION BY SUSAN LEVAN

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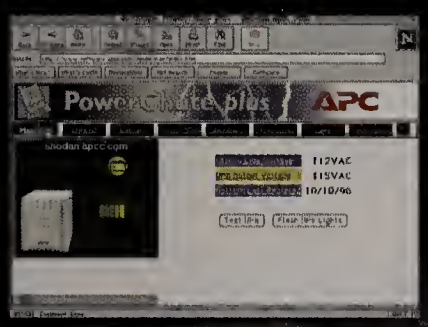

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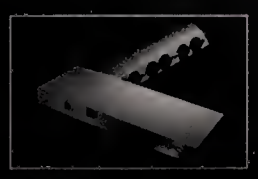

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tors of privacy. If your site gathers intelligence about your visitors but you want to ensure them that you have their best interests at heart, consider adopting the tenets of ETrust, a set of rules created by a group that includes the CommerceNet Consortium, Coopers & Lybrand LLP, the Electronic Frontier Foundation and Firefly Network Inc. Predicated on the importance of protecting privacy, ETrust lays out some simple rules of engagement that—when obeyed—earn your site the right to wear an ETrust Trustmark.

The first and foremost ETrust rule is disclosure. You must explain what information you are gathering and how you will use it. You must include a list of third parties with whom you are going to share the information and give visitors the right to update or correct their personal information. You must also give them the option and the ability to delete all references to themselves from your database.

Furthermore, you must guarantee that you will not "monitor personal communications such as e-mail or instant messages" or "display or make available personally identifiable name or contact information unless it is publicly available."

There are three types of Trustmarks that can be added to pages based on the types of activity conducted there: The "No Exchange" Trustmark indicates that you will keep usage, transactions, chat and tracking anonymous; the "1 to 1 Exchange" Trustmark signifies that you will keep individual and transactional data to yourself; and the "Third Party Exchange" Trustmark lets people know you're not going to spread their data around like the flu.

THE ETRUST EFFORT is intended to make visitors comfortable with the fact that you are watching their every move. Full disclosure is good, but airlines, car rental agencies and even grocery stores have learned that some sort of members-only incentives are critical to preserving their customers' willingness to be watched. But that's not the only hurdle you have to clear. You also have to overcome the temptation of getting to know your visitors too well.

Taking the train from London's Waterloo station to the Gare du Nord in Paris via the Chunnel is great. You get there faster, you don't have to switch from a train to a boat back to a train, and you don't get seasick. You also don't get to feel the wind in your hair, see the sights or smell the sea air. You are sealed in a metal tube that plunges beneath the English Channel until you hit the coast of France.

Profiling your site visitors may help you guess what they will be interested in next. But, like the Chunnel train, it also puts them on a straight and narrow track with blinders on all sides. Adroit retailers place the staples at the back of the store, forcing customers to walk past aisles and aisles of impulse items. Web retailers who pitch according to profile may miss the chance to sell that staple buyer a set of artist's charcoals or a Magnetic Poetry kit.

Be knowledgeable, not familiar.

Say you visit a Web department store and click on the latest fashions. The next day you return to the site to check out bicycles. The bright red racer may show up surrounded by stylish biking apparel. Did you stop at camping gear yesterday? In that case, the bike graphic will show up with an assortment of equipment trailers, water bottles and backpacks.

On its face, the prospect of such focused pitches is enough to make a direct marketer salivate. But in time, the practice of "Chunneling" can backfire, thwarting efforts to upsell and cross-sell by limiting your customers' exposure to your wares.

Robin Johnson, president and CEO of Infoseek Corp., says search engines should keep queries in context. "If you do a lot of business searches and type in 'chicken stock,' we're not going to direct you to a bunch ofgumbo recipes," Johnson told *Information Week*.

But what if gumbo recipes were exactly what you had in mind? How can a computer decide you are either an investor or a chef but never both? The trick, then, is to be specific without being exclusive, to make sure customers see not only what they do want but also what they might want.

THE TRICK TO personalization is to be knowledgeable about your guests without being overly familiar. Be attentive without fawning. Be helpful without pigeonholing people into such small categories that they have to fight your system to find the products or services they want.

Personalization is a dance. It's a mutual exchange of data. I don't mind that the woman at the dry cleaner knows my name and phone number. I don't mind that Amazon.com knows what kind of books I like to read. But if I am researching Web servers and the customer profile system at Infoseek has a cooperative customer profile discussion with databases at Microsoft Corp., Sun Microsystems Inc., Cisco Systems Inc. and UUNet Technologies Inc., Infoseek may show me only the software that runs on the particular equipment/operating system/network I have installed. Not only do I not get the broad spectrum of information I'm after, but the little hairs on the back of my neck start twitching and my eyes start to shift back and forth, looking for miniature cameras. WM

Jim Sterne, president of Target Marketing of Santa Barbara and author of World Wide Web Marketing *and* Customer Service on the Internet, *wants to know about your Web site personalization efforts. He can be reached at* jsterne@targeting.com.

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NOSY PEOPLE ► FOR EXAMPLE

IT IS A SCIENTIFIC FACT that people are nosy and the thing they want to see the most is probably the thing you least want them to see. This explains why the Web is chock-full of stuff that is so unimportant, it doesn't matter if everybody can see it. Stuff like UFO chat lines, recipes for zucchini bread and short stories that nobody would publish on real paper. True, there is some business stuff. But it's mostly "brochureware"– general information aimed at the broadest audience, and therefore not terribly critical to anyone.

THIS IS BECAUSE, IN TECHNOLOGICAL TERMS, SECURITY IS CRUMMY. True, you can prevent people from getting into your system. But once they're in, they're in. The secretary in Accounting sees what your Vice President of Finance sees. Your freelance brochure writer sees what your compensation consultant sees. Everybody gets into everybody else's business. It's HUMAN NATURE. Thus, the Web is not used to let the right people get to the kind of useful-but-sensitive information they need to do their jobs.

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Going South

FROM BEER DISTRIBUTORS TO BANK CUSTOMERS TO MINERS IN THE DESERT, SOUTH AMERICANS ARE ENJOYING THE BENEFITS OF BEING WIRED **BY PETER FABRIS**

Web-based globalization efforts pose a tree-falls-in-the-forest kind of dilemma: If your company wants to do business in countries where scarcely anyone is using the Internet, will it make a sound? Fortunately for organizations eyeing South American customers and business partners, the Internet and intranets are taking off there, and that growth became clear during a 17-day tour of the region.

In Argentina, brewing heavyweight Cervecería y Maltería Quilmes S.A. fermented a rapid payback on its intranet investment, the first such initiative in the country. Silvio B. Szostak, general manager of the company's technology spinoff, Inventica Computacion S.A., had never heard of an intranet in September 1995. But by December of that year, Szostak had gotten approval for an intranet-based supply chain management application. That system, which was rolled out in May 1996 after one month of testing, has grown into a vital and money-saving link between the brewer and its distributors.

Quilmes' distributors are responsible for shipping Argentina's most popular beer, and they own the fleets of trucks that carry it. Some distributors operate in territories 700 kilometers (about 435 miles) from Quilmes' breweries—a full day's drive. Therefore, if a hiccup in the production system causes an order to be off by a couple of dozen cases, the distributor needs to know before the beer is loaded onto his truck rather than after the truck has returned to his loading dock.

To solve that problem, Quilmes added a Web interface to its production planning systems and made certain information—including daily sales reports and truck loading schedules—available to more than 100 of its 600 distributors via an expanded intranet. Distributors can now check the status of their orders instantly, noting discrepancies as they occur. Quilmes also uses the Web to settle its accounts with distributors, cutting that process from two weeks to a couple of days.

Lacking in-house Web expertise, Szostak enlisted Oracle Corp. as a partner in the project. For its part, Oracle planned to use Quilmes' site as a model to attract more Web business in Argentina. Realizing the marketing value of the project, the vendor wasn't exactly hard-nosed about the terms of collaboration. "They said, 'You can pay us whenever you want,'" Szostak says.

It didn't take long for Quilmes to volunteer payment, though. Previously, distributors had spent about $2,600 a month using Argentina's woefully overpriced phone system to track and share inventory data with the brewery. Getting the same information over the Web via satellite links costs distributors an average of $140 per month. Quilmes was so pleased with the pilot, especially the obvious ROI, that it paid Oracle one month after launch.

The intranet initiative has done more to raise the company's profile than an external marketing site ever could. "Even mass media in Argentina has covered [the intranet project]," Szostak says.

ILLUSTRATION BY DANIEL VASCONCELLOS

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ENRIQUE MATUS, CIO at Compañía de Acero del Pacífico (CAP) S.A., says he expects all of the mining, steel and forestry company's internal databases to be intranet-accessible within the next few years. Currently, the Santiago, Chile-based company communicates with dispersed employees chiefly by fax or phone. But Matus wants to replace faxes with hypertext views of steel product stocks and production records. He says he is especially interested in hooking up personnel at mines in the forbidding Atacama Desert—a wasteland that goes for centuries without rain—via satellite intranet connections.

"Low cost will help sell [the intranet] to the boss," Matus says. "For the near future, the intranet seems to be the best available way to build low-cost and high-quality information systems."

Matus worries that CAP S.A.'s workforce, which is generally older and not technologically savvy, may resist the plan. Nonetheless, he is so enamored of the Web that he went ahead and created—with some help from the company's public relations department—a corporate home page in his spare time, usually in the evenings at home.

The external Web is also taking off in Chile, which is not surprising given the country's enviable infrastructure. The first country in the world with a 100 percent digital telephone system, Chile boasts high-speed fiber connections throughout most of the nation. It is even testing cable modems: Cable Aconcagua Televisión S.A., located in Los Andes, a city of 55,000 in the shadow of the Andes Mountains, is offering cable Web access to select customers.

That effort began in September 1995, when Cable Aconcagua set up a cable modem network called Vereda de la Información (Information Sidewalk) to deliver community-service and other information to its customers. The company went that route "because [Internet service providers] that we approached showed no interest in coming to Los Andes to offer Internet access," says General Manager Maurice Poisson. In December 1995, Cable Aconcagua connected Vereda to the Net.

Chile's technical progressiveness also encouraged Banco de Crédito e Inversiones—the only Chilean bank with a branch in Antarctica—to give customers Internet access to their account balances as early as November 1995. Today, the 120-branch financial institution offers access to savings, checking and credit-card balances to 150,000 people online, although so far only about 1,300 use the service. "We think the Internet is a strategic distribution channel," says Network Manager Pablo Cousiño.

FINDING IT ONLINE

American Chamber of Commerce, São Paulo
www.amcham.com.br

Banco de Crédito e Inversiones
www.bci.cl

Cable Aconcagua Televisión S.A.
www.aconcagua.cl

CAP S.A.
www.reuna.cl/cap/english.html

Oracle Corp.
www.oracle.com

CHILE'S NEIGHBORS, unfortunately, are not nearly as blessed when it comes to infrastructure. In Brazil's largest city, São Paulo, 400,000 people are on a waiting list for telephone installation. Nevertheless, Brazilians have taken to the Web in significant numbers: The largest and most populous South American country has about one million Internet users, and that figure is rising rapidly, says Ivan Campos, secretary for information and automation policy in Brazil's Ministry of Science and Technology.

Brazilian businesses are moving to the Net despite the expense of telecommunications services, which can be as high as $3,000 just for a company phone line. As a result of those costs, "it took a quarter of a million dollars to get our Internet services going," says Peter Stern, international trade manager at the American Chamber of Commerce in São Paulo. "We've grown from 20 to 200 telephone lines just for Internet access." And of course, using the phone lines gets you 64Kbps connectivity at best, and that doesn't compare with the high-speed connections you can get in the United States and elsewhere. "If you have a 28.8 modem, it doesn't necessarily mean you're going to get that speed online," Stern says.

Finding Web expertise is another problem. The chamber is stepping into that breach by offering Web services to its 2,000 corporate members—including American and Brazilian companies—acting as an ISP and designing home pages. "We're the third-largest provider of Internet service in Brazil," Stern says.

The chamber's own site, AmchamNet, includes a yellow-pages section that classifies member companies based on Standard Industrial Classification codes. "Inside Brazil" is a biweekly English-language feature about doing business in the country; linked to that is the Business Opportunities Plaza, a list of companies scoping out Brazil for investments. An "Inside Brazil" survey indicates that 95 percent of the executives represented by the chamber have heard of or plan to use the Internet, says Traci Romine, editor of the feature.

And the Net will only continue to gain strength down south, if the popularity of the Chamber of Commerce site is any indication. "For the chamber and its members," Romine says, "the Internet, and particularly the AmchamNet home pages, have become an essential service to provide information, networking and other business opportunities." WM

Staff Writer Peter Fabris can be reached at pfabris@cio.com.

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go *figure*

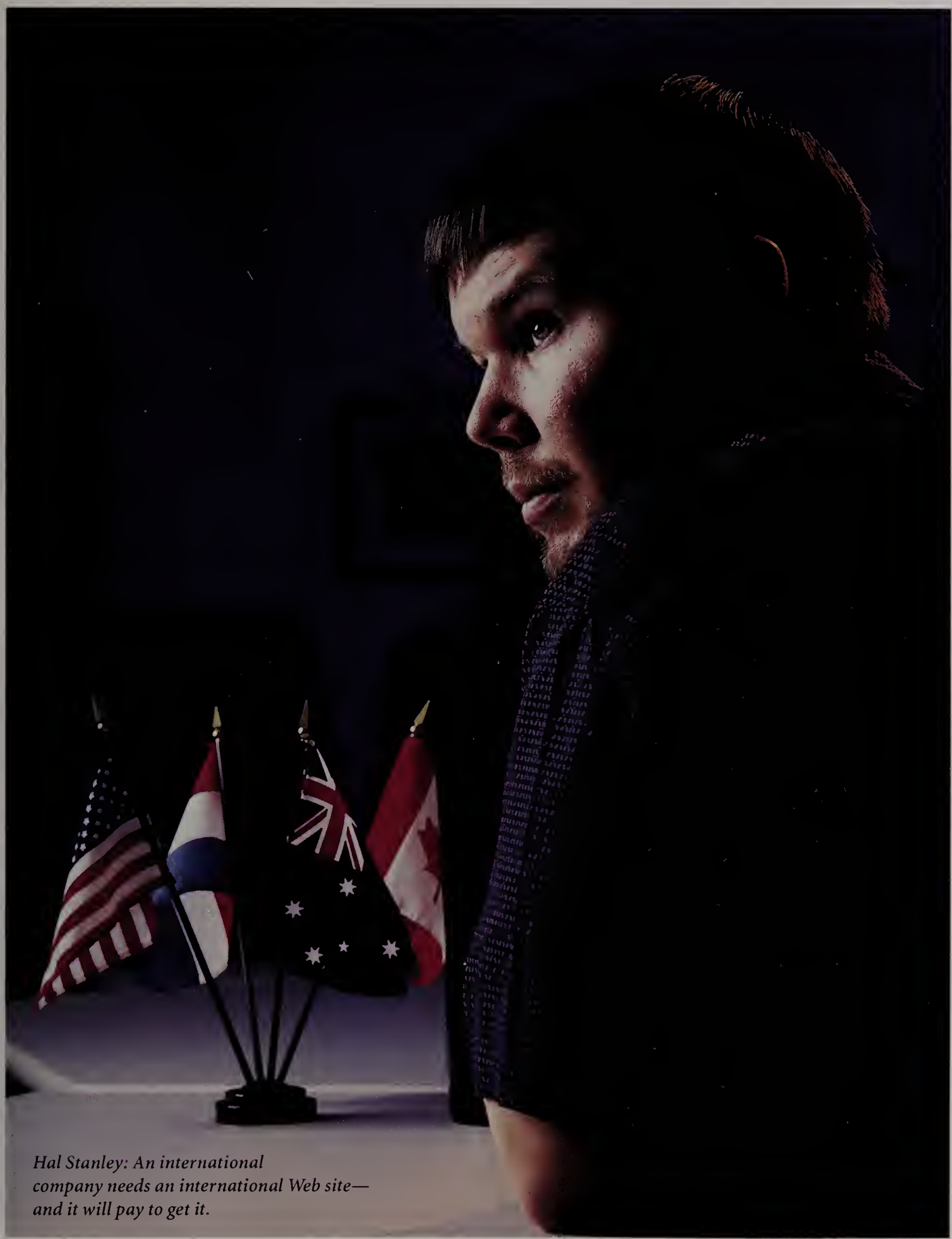
Now that their Web initiatives have swallowed a few million dollars and are roaring for more, corporations are starting to ask hard questions about payback

By Derek Slater

The World Wide Web is indeed turning things upside down. Where else do you find the corporate world spending first and asking questions later?

But the day of reckoning is at hand. Now that many corporate Web sites have been operational for a year or more, management is starting to ask what, exactly, it is getting for the money it has shoveled into cyberspace. As Gay Slesinger, vice president at IT industry analysis company Giga Information Group, puts it, "1996 was the year of getting on the Web; 1997 is the year to get the business plans, systems and processes ready to make money on the Web. 1998 will be the year to begin reaping the rewards."

The problem is that it seems no one knows exactly how to measure the ROI of Web initiatives. In fact, many analysts say precise calculation is impossible because of the motley nature of the Internet, touching as it does on sales, manufacturing, marketing, procurement, distribution and practically every other business function. Traditional ROI ➤ ➤ ➤



Hal Stanley: An international company needs an international Web site—and it will pay to get it.

PHOTO BY KEVIN HAISLIP

methodologies for information technology projects, which tend to be internally focused, generally lack the bandwidth to measure such a variety of costs and benefits. "We've got to get a dialogue going among those of us in the business to create a model" for figuring out Web ROI, says Suzanne Welch, general manager of Internet marketing for Eastman Kodak Co.

On the other hand, a few pieces of the payback puzzle are starting to come together. Giga has researched the savings wrung from electronic procurement, and International Data Corp. (IDC), a sister company of CIO Communications Inc., publisher of *WebMaster*, early this year produced a much-publicized study for Netscape Communications Corp. on intranet ROI. Some of that study's findings can also be applied to the Internet.

Both studies have their share of detractors, largely because they were sponsored by computer industry vendors. Nonetheless, they offer at least a few elements of a concrete methodology. "It's just breaking things down into their component parts and figuring out what can be affected and what can't," says Tom Elliott, Giga's director of consulting services, who headed the procurement study.

Put together enough such elements, and pretty soon you can hand your bean counters a reasonably complete enchilada. What follows is *WebMaster*'s guide to quantifying what your Web is worth.

costs Since you can't get anything out of the Web before you put something in, it makes sense to start with the cost side of the equation. Web site implementation and management costs are numerous, and some tend to be overlooked. "I think people have finally realized this is probably more expensive than they thought," says Bart Foster, vice president of marketing at Internet software company Connect Inc., which sponsored the Giga study. "It's been like the early days of client/server, where everything was supposed to be so cheap and easy."

Some things that aren't cheap but are at least obvious are hardware and software purchases, domain name fees and connectivity charges, which are paid to a telecommunications vendor and/or an Internet service provider. Costs vary with goals: Forrester Research Inc. says that in the first year, companies will spend around $300,000 for a purely promotional site and $3.4 million for a transactional site. (IDC is more conservative, putting the cost of a transactional site at $1.3 million.) Salaries for webmasters and other dedicated personnel hike up the bill, as does the cost of training staff on Web-based applications, a factor experts say is often overlooked.

Design, too, becomes pricey for companies that give a goshdarn about image. Organizations that design page templates in-house must calculate the costs of whatever employee time they divert. For those that outsource, templates and pages can cost $1,500 to $4,000 each at prominent design consulting companies, according to Richard Mandelbaum, president of AppliedTheory Communications Inc.

But it's the content costs that most often sock unsuspecting companies, probably because those costs have no correlative in traditional IT projects. "Keep it fresh" may be a cliché, but it's an expensive one. That's particularly true for sites that feature original material or that buy or license content from third-party sources.

And while companies don't pay extra for the Web's international reach, they do pay if they want to exploit it. "I can see rising frustration if we keep putting up all these slick pages but they're only in U.S. English," says Hal Stanley, who oversees Web-based technical support as online services manager for Symantec Corp. The software vendor lets customers use its site to retrieve product information and get technical support to resolve problems with their software from its databases, which are connected to the Web via CasePoint WebServer, a CBR2 content-navigation tool from Inference Corp. Because Symantec sells heavily in German-, Dutch-, French- and Japanese-speaking markets, the company's databases must be translated, and the rate can run up in the range of 15 cents per word, Stanley says.

The international flavor also affects order fulfillment costs if, for example, a company based in Tulsa, Okla., suddenly finds itself selling to Web users in Algiers. In addition to paying potentially outrageous shipping expenses, companies must contemplate a maze of import/export rules that vary from country to country.

When figuring the ***revenues*** from direct sales, companies should take into account what percentage of those sales represent new business.

For example, order fulfillment issues as well as potential conflicts with distributors are daunting enough to keep 3M's direct Web sales efforts limited to the pilot project level for now, says Pete Jacobs, 3M's manager of electronic commerce.

benefits Calculating the costs of a Web site is a day sipping mint juleps on the porch swing compared with the task of quantifying benefits. The only areas in which hard numbers are easily obtained are revenue generation (including direct sales, banner advertising and fees for Web-based services) and savings (for instance, reduced printing volume, lower customer-service head count and scaled-back use of value-added networks). Far squishier but equally important are things like marketing value and the opportunity to forge new business relationships with customers and suppliers.

When figuring the revenues from direct sales, companies should take into account what percentage of those sales represent new business. Sales leads, while obviously less concrete, should also be considered: How many e-mail messages does the company get requesting additional information about its products?

While it may increase sales of existing products, the Internet may also make it possible to launch previously unofferable products and services into previously unreachable markets. Because of the low cost of administering transactions, for example, insurance companies could offer inexpensive policies on something like a bicycle or a wedding.

Web sites are also a great way to attract business partners, who increasingly look to electronic transaction capabilities as desirable qualities in a mate. Foster cites a PC manufacturing contract that required the supplier to have electronic transaction capability. Assuming security concerns are allayed, the Net will likely emerge as the de facto pipeline for electronic transactions as well as for EDI functions such as order status updates. Big players have been guilty of some well-documented arm-twisting tactics in the past, forcing trading partners to develop compatible EDI capabilities. The emergence of the Net as a reasonably affordable EDI vessel will let smaller suppliers compete with the big boys for the first time. And for those companies already doing EDI, the savings from switching to an Internet model can be as much as 95 percent.

Intranet ROI is considered less slippery than Internet ROI, primarily because it relies so heavily on savings that can be documented. But many intranet facts of life are applicable to external sites as well. Take the cost-cutters' favorite whipping boy, paper. Electronic product literature can replace most paper catalogs and thus cut print-

New Dog, Old Tricks

Measuring Internet ROI is no different from measuring good old-fashioned information processing

Amit Maitra says companies that attempt to log every discrete cost and benefit of a Web project have chosen the wrong tree up which to bark. Maitra, author of *Building a Corporate Internet Strategy: The IT Manager's Guide* (Van Nostrand Reinhold, 1996), suggests an alternative approach based on the degree to which Internet—and by extension Web—deployment increases a corporation's ability to process information.

Maitra's system is based on the "return on management" theory articulated by former U.S. Department of Defense CIO Paul Strassmann (see "The Meaning of Value Gets a Fresh Definition," *CIO*, Oct. 15, 1994). Anyone who follows IT managers' head-scratching over the "productivity paradox" should have guessed that Strassmann would have something to say on this subject. Maitra's methodology is a bit abstract at first glance, but here is the *Cliffs Notes* version:

Maitra posits that the value of a corporation comes not from its assets but rather from its ability to process information, which he refers to—somewhat iconoclastically—as "management." The Internet, he says, is merely "an extension of traditional management roles, by other means." In other words, the Net and the Web are new tools for performing the traditional corporate functions of information intake, churn and output. And the best way to measure how well companies perform those duties is with familiar business yardsticks, such as net sales and profitability compared with administrative and R&D costs. The correct formulation of the return on investment question, Maitra says, is, to what degree does the Net increase management's ability to process information?

"The old ROI formulation can now be replaced by directly measuring the productivity of management as an information processing function," Maitra writes. He recommends that companies perform an annual audit that correlates those measures in each business unit with the unit's Internet use. The rise or fall of management's productivity after deploying the Internet indicates the technology's impact. The change can then be compared with other units' results to determine whether the Internet is being poorly used by that particular unit. *–D. Slater*

ing costs. Kodak, for example, greatly reduced its print run of product catalogs in 1996 by letting remote sales agents use its Web site as a print-on-demand service. The agents enjoy the additional benefit of constantly updated information, and Kodak says it expects to reap $200,000 annually in savings.

Then there's Midwestock, a mid-size licenser of stock photography in Kansas City, Mo., whose inability to afford a print catalog put it at something of a disadvantage against larger competitors. Not surprisingly, Director Susan Anderson jumped at the opportunity to provide product information over the Web. "I was trying to find a way to level the playing field," says Anderson.

Susan Anderson: The Web lets Midwestock offer brand new services.

Even if companies aren't racking up new sales over the Web, they can reduce the cost of servicing customers by performing transactions and distributing products electronically. Holiday Inn Worldwide, for example, saves 25 percent when customers book rooms through its Web site rather than through the company's call center (see "Rooms with a View," *WebMaster*, March/April 1996). Kodak saved about $4 million in 1996 by delivering software drivers for the company's imaging and photography products over the Web; savings should be even higher this year as Web use grows, says Mike Pagano, manager of Internet communications. Having customers download the software costs virtually nothing compared with traditional methods of distribution, such as overnight mail.

Customer service also offers some straightforward savings metrics. Most companies maintain data on the cost of each problem resolved using the telephone or mail. Inference offers self-service tools that track the number of successful resolutions reached via a Web site. Brøderbund Software Inc. kept its service representative head count down last year by letting customers answer their own questions on the Web; the company estimates that its site handled for nothing volume that would have cost $265,000 to manage in the call center (see "Help Yourself," *WebMaster*, March 1997).

Stanley says Symantec expected to have estimates of savings at the beginning of this month. "Statistics show us how many people come into the Web site and how many of those visits result in solutions," he says. "We're going to plot that against ongoing phone volume in those areas" to see how phone center staff requirements are affected. "We expect to find an equilibrium where we are getting the maximum solution rate using the minimum phone staff," he says.

And just as companies can use the Web to offer products that aren't cost-effective any other way, they also can offer new forms of customer service. For example, in order to keep its site fresh and server space costs manageable, Midwestock publishes only 150 of its 150,000 images at a time, rotating the selection every two months. But if a customer calls Midwestock to request a photo of a glacier, for example, the company can post a selection of its stock of such photos on the site, with a URL given only to that customer. This is the first time Midwestock has been able to offer such a customized

Kodak saved about *$4 million* in 1996 by delivering software drivers for the company's imaging and photography products over the Web.

PHOTO BY LAURA SHULTZ

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service; the alternative—packing and shipping hard copies—was too expensive.

Even if a company isn't ready to spring for a Web site, there are benefits it can glean from plain old Internet connectivity. Communications is a fruitful area for savings, with the substitution of e-mail for phone calls and letters only the most obvious example. Employees also can use the Internet to conduct what previously was expensive research, such as obtaining product specifications and other information.

Similarly, ad hoc faxing can be handled over Internet pipes with software from companies such as TAC Systems Inc. and SoftTek Inc. TAC Systems' Faxfree software transmits any scanned image to an e-mail address; recipients view the document via a fax viewer. The vendor says this procedure can reduce telephone expenses by 40 percent or more.

Still, some remain skeptical about such ROI success stories. Although IDC's intranet study indicated sizable savings from increased employee productivity, many companies still believe Net access will have the opposite effect. And while some argue that the Internet can prove particularly valuable in areas such as procurement and competitive intelligence, which rely on employees' ability to assemble information rapidly from a wide variety of sources, others note that some of the sources may be inaccurate, incomplete, outdated or biased.

Measuring direct sales, customer self-service and communications savings is relatively straightforward.

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3M
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AppliedTheory Communications Inc.
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www.holiday-inn.com

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www.idcresearch.com

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www.metagroup.com

Midwestock
www.midwestock.com

SoftTek Inc.
www.sftek.com

Symantec Corp.
www.symantec.com

TAC Systems Inc.
www.tacsystems.com

But what about companies that create sites primarily to market themselves? Enhancing an image and gaining customer mindshare may not be easily quantifiable benefits, but they certainly can't be dismissed. "We just had our first million-hit day," says Kodak's Welch. "There's something about that reach and the value it creates that just isn't captured by traditional ways of looking at ROI."

Welch says Kodak counts on the Web to "add attributes" to the company's brand. The marketing organization, for example, wants customers to associate Kodak with innovation, and "we can do that because our Web site is very innovative," she says.

Symantec, for its part, wants its Web-based service features to endear the company to customers. "We're trying to give customers the best support that's available. You can't get more subjective than that," Stanley says.

Midwestock, meanwhile, sees the Web as a way to make an impression in its home market. "Kansas City is definitely a place where you're not [regarded as] an expert unless you're from out of town," Anderson says. "The Web has brought us credibility."

The Web's distinctive ability to let companies perform one-to-one marketing is another potentially powerful feature. If you know which of your products a customer is most likely to buy, you should be able to put the right marketing materials in the right mailboxes and thus generate more sales.

The list of benefits does not stop there. Rather, it trickles off into softer and softer areas, such as the ability to attract quality job candidates and the opportunity to create a sense of community among customers. As the medium evolves, so will more specific methodologies for calculating ROI. In the meantime, analysts say, the most important factor in the equation may be the potential cost of not being on the Web. "You may have to use the Web to avoid competitive disadvantage," says Carl Lehmann, program director in electronic commerce research at Meta Group Inc., citing as examples United Parcel Service of America Inc. and all the other shippers that have had to move quickly to counter Federal Express Corp.'s first-to-market Web-based package tracking capability.

Where hard numbers fail to tell the whole ROI story, anecdotal evidence doesn't hurt, especially when it comes from customers. Kodak, for example, collects e-mail with positive customer comments about its Web site and distributes it to "very specifically targeted recipients," says Mike Pagano. "Like anyone at Kodak with an e-mail address." WM

Staff Writer Derek Slater can be reached via e-mail at dslater@cio.com.

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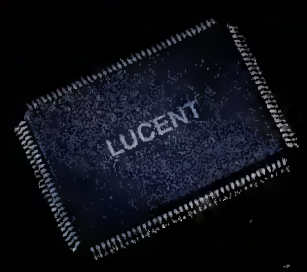

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POWER

Intranet content must be consistent, reliable and ready to post—three reasons why buying is better

BY JENNIFER BRESNAHAN

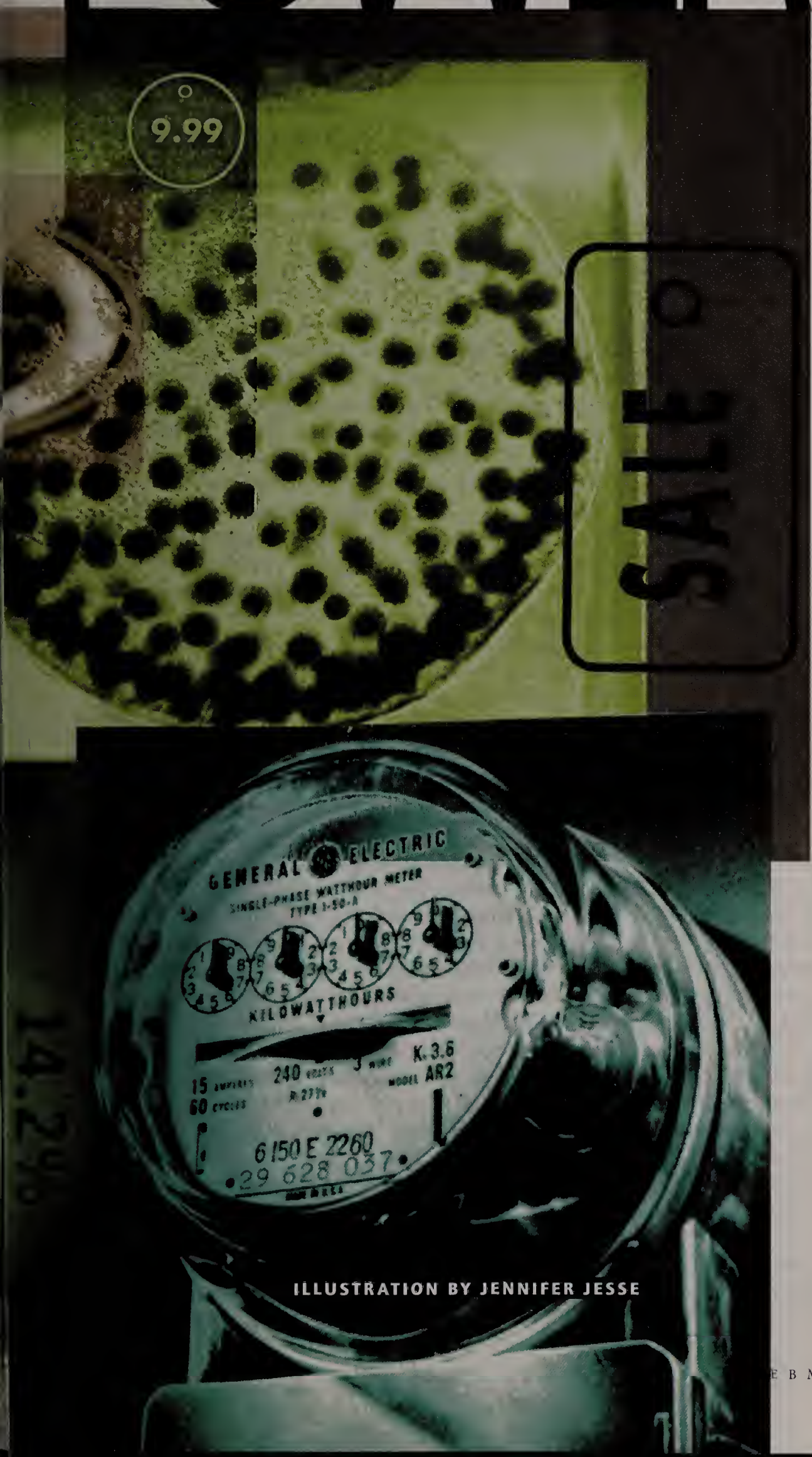

ILLUSTRATION BY JENNIFER JESSE

THE ENGINEERS at Sematech Inc., a consortium of 10 semiconductor companies, used to have the darnedest time getting the information they needed to stay current with their rapidly evolving industry. Some journals were available via e-mail, but those e-mails were delivered in long strings that were hard to scan. And if engineers deleted an e-mail by mistake, they would have to contact the library to get another copy. Furthermore, if engineers needed the latest research out of a journal such as *Cambridge Scientific Abstracts*, they had to troop down to the library and put in a formal request.

But even with its burdensome information distribution system, Sematech was way ahead of most companies. At least it used e-mail. Employees in other organizations might have to fight for a single copy of the latest journal from the library or wait for it to be circulated around the office. And even in the best of circumstances, there is some important information that most staff members will never see—unless someone takes it upon himself to photocopy and distribute thousands of copies, a dangerous strategy when content providers impose fines up to $100,000 for copyright infringement.

Sematech's new means of disseminating information, which was put in place three years ago, leaves e-mail in the dust. Everything the engineers need to stay current is now accessible from their desktops through a corporate intranet. Sematech pays flat subscription fees so that employees can access content from *Cambridge Scientific Abstracts* on the publisher's Web site. Other content, such as articles from *Japanese Technical Abstracting*

PAYING THE PIPER

SUBSCRIPTIONS to a single database from the *Cambridge Scientific Abstracts* database collection cost between $3,000 and $10,000 for unlimited usage by any number of users on a single server.

World Broadcasting Network Inc.'s **BASIC PROGRAMMING**, including multimedia, market news, specialized reports, international newsfeeds and training videos, costs approximately $50 per user per month.

Individual Inc.'s customized **NEWSFEEDS** cost less than $1 a day per user for companies with more than 200 users.

Dow Jones & Co. Inc.'s DowVision, a direct-to-the-desktop, custom **NEWS SERVICE**, costs $5 a month per user for 5,000 users and $15 per month per user for 500 users.

The Standard & Poor's division of The McGraw-Hill Companies Inc. sells a variety of business **DATABASE EXTRACTS**. Costs for a company of 5,000 could run from $20,000 to $30,000 per year, depending on the extracts selected.

Service and *Digitized Information*, comes via e-mail in ASCII format and is run through a Perl script before being placed on the intranet.

Sematech has purchased that information for years, but it has never been this easy for workers to access. "Making it available on the intranet encourages people to do more research," says Marilyn Redmond, manager in Sematech's Strategic Information department. "The library still gets research requests, but now they are much more sophisticated because people have gone through the initial stages and have a better idea of what they want."

Ben de la Cruz, editor at large for Cowles/Simba Information, a newsletter publisher and market researcher, says most Fortune 500 companies are looking into arrangements similar to Sematech's. Buying intranet content has become extremely attractive, de la Cruz says, because much of that content is available in HTML and other formats that can be posted directly on the Web. "Information that wasn't easily available before now will be delivered directly to the desktop," de la Cruz says. "It will help keep people informed and increase productivity." As is the case with Sematech's content, most of the material being licensed—journal articles, stock price feeds and training tutorials—has been available for years. And the companies that are buying it are buying it for the same reasons they always did: They want reliable and well-prepared information.

"One of the advantages of purchasing information is you're buying a brand-name product," Redmond says. "You can assume that quality is there, as opposed to just getting anything off the Web."

Placing that content on an intranet does more than make it widely available; it takes a variety of material and delivers it through a single access point. Until recently, many training programs might have been presented on videotape, stock feeds would come through a proprietary electronic service and journal articles would often come in hard copy. Now, intranet content providers are translating various formats into those that work online, and all of the above can be accessed without leaving one's desktop. The information also can be manipulated to be user-friendly. All of the articles about a particular industry or key competitor, for example, can be posted automatically on the intranet in the same format as content produced in-house. That makes it easier for employees to navigate and search the material.

"The benefit to the company licensing content and putting it on the intranet is [that it] can tailor the information that the employees are going to see," says Bill Doyle, a senior analyst in Forrester Research Inc.'s Media and Technology Strategies service. "I'm not talking about censorship but being able to pluck out publications that the company knows are most important to its employees, publications that aren't available from general news aggregators. And they can tailor the way that folks can get at the content with customized searches and an organizational scheme that uses the same language of the industry or organization."

It was the desire for a consistent, customizable interface that prompted Lucent Technologies Inc.'s corporate library to start buying content for the company's intranet. Lucent, a network and communications technology vendor, licenses material from several providers, including Dow Jones & Co. Inc., the Standard & Poor's division of The McGraw-Hill Companies Inc., and *Institute for Scientific Information* and *Computer Library* journals. It also buys the rights to reproduce individual works, such as *Roget's Thesaurus*.

"We do this because it's easier to bring in information that we can put under our own search engine so that everything has the same look and feel," says Melissa Young, manager of electronic services for Lucent's library network. "You could do a search for a particular topic, and it would search external magazines [whose content Lucent buys] as well as inter-

www.web-master.com/

Placing content on an intranet does more than make it widely available; it also allows for a smooth and consistent presentation.

nal information like papers and talks that Lucent people have given." Lucent also controls the content so that, for example, employees see articles about Lucent, its competitors and the industry, which are purchased from Individual Inc. and delivered via the Internet.

Of Lucent's 120,000 employees, about 30,000 use the company's intranet in some fashion. Scientists search for industry research, factory workers check out the latest in manufacturing techniques and managers can find information on hot trends, such as new applications for the Web. The library network pays an upfront fee for the information and splits the cost with departments that use it. Users know that if they sign up for a particular information source, it will be charged to their departments.

Another attraction of buying intranet content for Lucent is that it keeps employees off the Internet, where searching for information can be time-consuming and frustrating.

"Bringing it all in may be more expensive, but you have to weigh the cost factor of actually paying for the information versus paying for a person's time," Young says. "Our customers tend to get impatient with a search where they don't see any results for three to four seconds—searching across the firewall is still slower than that."

SMELLING A NEW MARKET, major publishers, such as McGraw-Hill's Standard & Poor's division, are rushing to convert their material into formats that can be transmitted via the Internet and immediately posted on an intranet. But the emergence of Web technology has done more than make old wine available in new bottles: It has also put entirely new kinds of content within many companies' reach. Coopers & Lybrand LLP, for example, now receives from major investment houses research that had been inaccessible until the Internet became a popular business tool, says Mik Chwalek, Coopers partner in charge of knowledge strategies. For years, the investment houses kept such useful information in-house simply because it was too hard to publish. Chwalek says the ease of HTML conversion and Internet publication prompted the companies to make their material available for a price.

Today, several investment houses send their research to Coopers' CyberLyb, part of the company's intranet, replicating the information from their own servers to a server behind Coopers' firewall. That system maintains the security of Coopers' network and the integrity of the investment house's server, Chwalek says. Analysts use the research to study the industry outlook and business potential of individual companies. They might, for example, use the content to advise a potential client who is thinking about switching auditors or to counsel a client who is considering buying another company.

The exclusive deal between Coopers and the investment houses has the added benefit of reaffirming and securing their relationships—not a small consideration in an environment where loyalties and partnerships can mean success or failure, Chwalek says. "They have decided to make their information available to only a few major players," she says. "They're not in it for the money. This is not just an opportunity to acquire information; this is an opportunity to strengthen relationships. To deliver full service, you want to broaden your appreciation of the marketplace. We're attractive because of the terrific size, breadth and depth of our client relations."

Another nice thing about using Coopers' intranet, says Chwalek, is that it helps the company get its money's worth from the millions of dollars it has spent on desktops. "There's no other sensible way in a company that's networked well to handle content acquisition and distribution," Chwalek says.

INTERNET AND INTRANET TECHNOLOGY have also inspired the emergence of a new class of content providers that customize video, audio and text presentations for specific needs. The Worldwide Broadcasting Network (WBN) Inc., for example, aggregates content from such sources as ABC NewsOne and Merrill Lynch Financial News as well as from its own reporting. The company packages multimedia presentations for intranet distribution and broadcasts them via the Internet to customers such as Banque Paribas, which subscribes to programs concerning emerging markets, one of the bank's many interests. A Banque Paribas fund manager investing in Russia, for example, can go to the intranet and view a video program on the latest financial developments in Russia. In the old, pre-intranet days, that manager would have had to plow through newspapers and faxes and probably get on the phone with an analyst or two. "We can achieve a lot more if the emerging markets sales rep can get a summary of all the things that affect the market," says Shahriar Shahida, global head of emerging markets for Banque Paribas. "It's a tremendous advantage."

Eventually, Banque Paribas will make that section of its intranet available to select customers in an expanded intranet model, says Caesar Salazar, director of software development. Banque Paribas and WBN have not yet worked out whether WBN will receive additional fees when that happens.

For most companies, the idea of purchasing intranet content offers some attractive advantages but also can create its own set of concerns. At Coopers & Lybrand, centralizing content distribution on the intranet meant that Coopers also had to centralize content acquisition, and that prompted a reorganization of some bookkeeping and accounting procedures.

And at most companies, licensing content for an intranet represents a major change in the way companies pay for information. Instead of paying as they go, as they have done with some proprietary information services, they have to foot the bill for upfront subscription fees, sometimes necessitating the involvement of the CFO. Licensing content is also generally more expensive than buying it in hard copy.

Some companies also worry about security, particularly when a content provider sets up a direct link to a corporate intranet. But WBN President Ali Kazeroonian insists that such concerns are unfounded. "The security level with direct information feeds is no more or less than what you would see with an Internet service provider," Kazeroonian says. "You are responsible for your own company's security. Potentially anyone from an ISP could have access to internal traffic, so the same security issues apply. A company needs to make sure that the firewall allows only certain kinds of traffic through, such as newsgroups and video and nothing else."

A growing number of companies are worrying less and buying more content, says Cowles/Simba's de la Cruz. In fact, some organizations are so comfortable with third-party arrangements that they are buying the kind of non-essential content that has less to do with business strategies than with workplace convenience. Banque Paribas, for example, is looking into subscribing to broadcasts of intranet-ready videos jointly produced by WBN and video publisher WingsNet Inc. on such topics as benefits training, choosing a health plan, diversity and sexual harassment. Initially, the videos will merely supplement internal training efforts, Kazeroonian says, but someday they might replace them.

Company-specific content, the kind of thing that once filled the pages of in-house newsletters, also can be prepared for intranet presentation by outside providers. Hammock Publishing Inc., for example, creates a customized intranet magazine for First Data Corp., a payment systems, electronic commerce and information management services provider. The publication reports on news and trends within First Data's 40,000-strong workforce, including individual employee accomplishments, new branch openings and recent acquisitions. The magazine originally was sent to First Data as a print publication, and it still is, but First Data also receives it in e-mail attachments, which the webmaster converts to HTML and posts on the intranet. "We're using both print and electronic formats of our magazine to provide greater access across our company," says Alan Boyer, a spokesman for First Data.

Hammock Chairman Rex Hammock thinks company-related content is the most valuable a corporation can offer its employees on the intranet. "Any company that launches an intranet soon discovers that it's a content hog," he says. "So one of the challenges webmasters have is finding helpful, entertaining information for their employees. Local information is probably the most interesting information you can offer. It helps [employees] live fuller lives."

Where will it go from here? If the purpose of licensing content for the intranet is to make life easier for employees, some observers say, then companies could begin licensing content from local merchants and nonprofits. A health club, for example, could sell a newsletter on how to avoid getting the flu, or a charitable organization could sell electronic versions of recipes as a fund-raising effort. "The corporate environment is using the intranet for everything, so it wouldn't be out of the realm of possibility for a corporation to include local services that would be of interest to people," de la Cruz says. From there, he says, it's a logical step to a new source of revenue: intranet advertising. The pro-spect for merchants is enticing. Say the local Pizza Barn buys a banner on Acme's internal home page with a link to its menu. The company's employees log on at lunch time, send their orders via e-mail and pay online. The restaurant could even offer discounts to customers who ordered over the Net. While offering employees a chance to save 20 percent off the price of a chicken salad sandwich might not increase corporate revenues, it's just a mouse click away from a vast reservoir of resources that will. In the meantime, employees can at least eat their chicken sandwiches at their desks while perusing the latest and best business information that is available on the intranet. WM

FINDING IT ONLINE

Banque Paribas
www.paribas.com

Cambridge Scientific Abstracts
www.csa.com

Coopers & Lybrand LLP
www.colybrand.com

Cowles/Simba Information
www.simbanet.com

Dow Jones & Co. Inc.
www.dowjones.com

First Data Corp.
www.firstdata.com

Hammock Publishing Inc.
www.hammock.com

Individual Inc.
www.individual.com

Lucent Technologies Inc.
www.lucent.com

Sematech Inc.
www.sematech.org/public/home.html

Worldwide Broadcasting Network Inc.
www.wbnet.com

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PROTECT

Tight security is a must, but too much security can keep customers as well as intruders away from your business

BY DANIEL P. DERN

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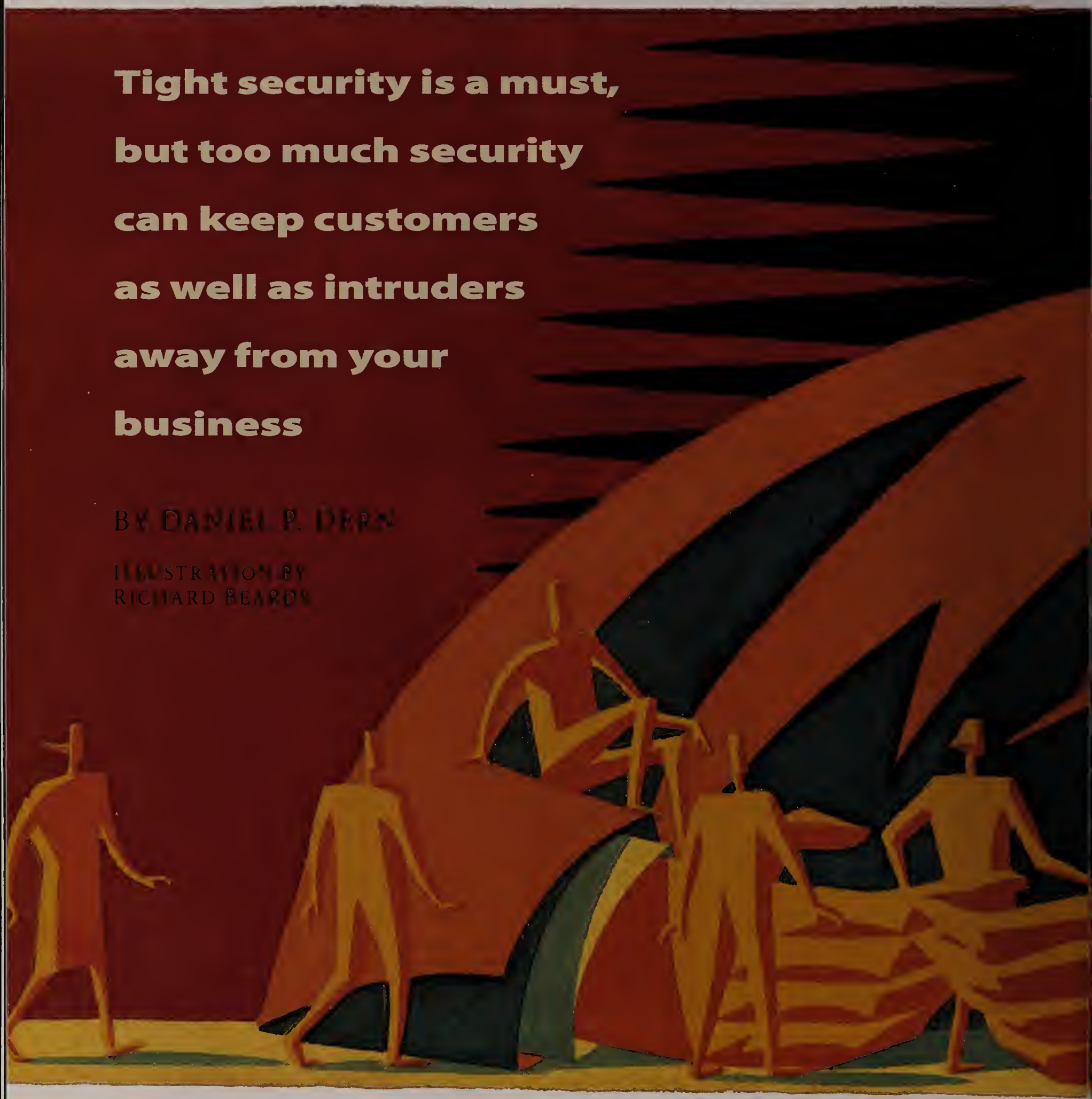

OR SERVE

ACCESSIBILITY IS THE WEB'S GREATEST promise and its greatest threat. Business executives welcome the opportunity to transform their operations by opening databases and other information repositories to customers and suppliers, yet they fear that such access will leave them vulnerable to security breaches. The challenge for anyone building a business Web site is to achieve a reasonable level of security without impeding opportunity.

"Suppose some 18-year-old with an IQ of 180 decides to take a 'not' out of a policy?"

—DARRELL TICEHURST

What is "reasonable," of course, will differ from company to company; a bank or a hospital will have stricter security requirements than a gourmet food shop. And every organization will have to weigh its goals against a variety of costs. Security can be expensive. It can slow down performance. And it can place obstacles between users and the information companies want them to have. So when it comes to building a security system that fits the needs of a particular site, few of the answers come easy.

"You have to assess how much risk is inherent in your environment," says Don Elledge, manager of the Distributed Computing Infrastructure Group at DeLoitte & Touche LLP. "That's how you decide how much security should be implemented per application. You don't start by designing an application; you start by designing an infrastructure, and security has to be part of this."

As for estimating cost, Elledge says it's hard to cite a certain percentage of a Web budget that should be allocated to security needs. Still, he suggests that 10 to 15 percent isn't out of line. That guideline notwithstanding, everything about achieving the balance between safety and service must be an individual company's decision. What follow are the stories of organizations that have made these decisions.

INSWEB

INSURERS, BY DEFINITION, assume risk for someone else. But InsWeb Corp., a Web-based company that helps consumers choose and buy insurance, is taking very little risk when it comes to security. InsWeb handles several types of sensitive information. It hosts the home pages of several insurance companies, and many of those pages contain policy information that is legal and binding and that therefore must remain exactly as posted. And in order to get pricing information and quotes from individual companies, customers must enter personal information about age, health and financial status. Customers who actually buy insurance through the site must provide still more financial data. In short, InsWeb is chock full of the kind of information that must be protected.

"The issue for insurance companies is page tampering," says InsWeb president Darrell J. Ticehurst. "Suppose some 18-year-old with an IQ of 180 and not very good judgment decides to take the 'not' out of a policy just to see how long it will take someone to notice. That insurance company could end up facing a series of legal claims."

Ticehurst says much of InsWeb's information could be changed if it were not for its security. He says the site's firewall denies access to thousands of requests a week, the vast

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majority of which resemble intrusion attempts but are probably merely the result of users typing the wrong information or the fallout from technological glitches. But Ticehurst also estimates that each week there are about 30 deliberate attempts to break in.

"They could be attempts to get control of our hard disks to read and write on them," he says. "There are people out there systematically probing everything on the Internet that they can reach."

To protect its content and the activities of client companies and consumers, Ticehurst's security measures include placing filters in InsWeb's Cisco Systems Inc. routers. The filters act as a preliminary firewall and block inappropriate attempts to connect. Ticehurst has also built an entry "demilitarized zone" so that visitors first enter an area that contains no sensitive data and where Netscape Communications Corp. Commerce Servers convert their requests to CGI queries and send them through an internal firewall to secure Web servers. Ticehurst also placed the server hardware and all disks with sensitive information in a locked room to which only authorized staff is allowed entry.

Such serious security costs serious money. Ticehurst says that when his security measures were put in place nearly two years ago, they cost more than $1 million. Today, he says, because much of the software that InsWeb had to create is now available in off-the-shelf products, the company could achieve its initial level of security for half the price.

Although the cost of firewalls has dropped, InsWeb's technology and systems operating costs have risen 30 percent in the past year, Ticehurst says, largely because of the added expense of security maintenance.

But money is only one way that InsWeb pays its security tab. InsWeb has had to trade speed for the comfort of knowing that unwelcome guests will not be admitted. Ticehurst estimates that his security efforts add 300 to 500 milliseconds to certain transactions. He sees those delays as inconvenient but not maddening enough to drive users away. And for insurance companies, which pay to post information on InsWeb, the process of updating policies is far from convenient.

"It would be nice if we could just allow developers to upload files straight to the system on their own," says Ticehurst. "But because of security concerns, we have a procedure where the data being uploaded to the live site must be 'pulled' from a computer in the locked secure area rather than 'pushed' from an insecure location. And we do this twice a day. We're talking about a pretty expensive and ongoing procedure just to make sure the data is clean."

Such inconvenience and the expense is part of the price of doing business online, Ticehurst says. Better security means more customers, and more customers make it possible to pay for better security.

"The insurance companies really care," he says. "Most of them have toured the facility and audited what we've been doing. Every time we make a sales call, [security] is one of the top three questions asked. If you don't have a good security system, I guarantee you'll be broken into."

THE SECURITY TRADEOFFS

	INSWEB	PENN STATE	THE INTERNET CO.
GAINS	*Ability to attract customers*	*Very large user base*	*Money and time savings*
LOSSES	*High costs, limited customer access*	*Relatively high costs, some reduction in speed and ease of use*	*Very limited customer access to files*

SAFETY SITES

THE WORLD WIDE WEB SECURITY FAQ:
www.genome.wi.mit.edu/WWW/faqs/www-security-faq.html

THE UNOFFICIAL WEB HACK FAQ:
www.fastlane.net/homepages/thegnome/faqs/www/index.html

INFORMATION WARFARE SITES:
www.teg.saic.com/iw.htm

PENN STATE UNIVERSITY

IMAGINE A UNIVERSITYWIDE intranet that allows administrators to change salaries, staff to order supplies and students to check their grades. Risky? Pennsylvania State University has found that the benefits of giving students and faculty access to some of its data far outweighs the risks. Penn State's intranet, which spans 22 campuses and lets 76,000 students and 15,000 faculty and staff members do many things they did on paper just a few months ago, is a hit.

"There are huge savings that come by providing customers that kind of direct access to their administrative in-

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formation," says Ken Blythe, director of office administrative systems. For example, says Blythe, Penn State gets an average of 20,000 course-change requests a day in the first week of each semester. Before students had electronic access, each request took six to eight minutes to process, and the whole campaign forced the university to hire small armies of temporary staff. Now students can make their own changes. They can also submit information used by the financial aid department to see if their loans have been approved.

University staff, meanwhile, use the intranet to order items as diverse as office supplies and chemicals for science labs. A Web-based catalog includes graphics, product specifications and prices. Barbara Lyke, a senior systems analyst, says the catalog and requisition project alone will save the school hundreds of thousands of dollars a year.

"Each program you run adds an opportunity for human error."

–BILL LOVE

Penn State's intranet, therefore, is unquestionably a good thing. The challenge is to keep people from using it to do bad things. And the way to accomplish that, says Blythe, is to make sure that a large number of people can see specific information but that only a very small number can change it. Any student who wants to check his or her grades, for example, needs only a user ID number and a password. Changing a grade, on the other hand, requires a user ID, a password and a SecurID card from Security Dynamics Technologies Inc.

"We have about five levels of security authorization," says Blythe. "We start with standard user ID and password as well as the use of physical tokens. We also have an authorization scheme that defines which people are allowed to access what data. It also determines which functions—of which we have more than a thousand—they're allowed to perform on different pieces of data."

To provide those levels of security, Penn State, like InsWeb, has had to weigh advantage against cost. In the end, intranet administrators decided that the complication of using several security technologies was a necessary trade-off. That's because the system could not have been customized to allow different levels of access to different groups of users without the multiple technoloiges, says Robert O'Connor, supervisor of network architecture research and development. For example, the school uses secure sockets layer (SSL), a standard Web browser-server security function, for students or alumni who want access to information with low exposure risk. But for more rigorous authentication, such as that needed when faculty members enter grades, Penn State uses both Gradient Technologies Inc.'s WebCrusader Connect Client and the SecurID system.

"It's not just a matter of trade-offs," says O'Connor. "It's a matter of doing things that would be impossible to do without it. You have to log in, but you only have to log in once. I'm not sure how much it slows things down, but frankly, I don't care."

And because of the savings the intranet provides, the financial cost of security is easily justified. O'Connor says that the university spent a quarter of a million dollars for its site licenses and that it will spend $50,000 a year for software maintenance. In fact, the total cost of maintaining the security system, says Blythe, is about $200,000 a year when personnel and hardware costs are added. Given the size of the Penn State community, that translates to roughly a penny a day per person—in other words, a bargain.

THE INTERNET CO.

WHILE MANY PEOPLE complain that security devices diminish performance, Bill Love, manager of technical services at The Internet Co. Inc., complains that they diminish something else: creativity.

"Firewalls get in the way of creative Web sites and alternative services," says Love. "Somebody has to continually administer changes to allow new programs and protocols to get through. When [Progressive Networks Inc.'s] RealAudio was first released, for example, many sites couldn't use it because administrators wouldn't allow the RealAudio stream through their firewalls."

Love says his company thought about using firewalls, then thought again. "We decided that our environment was small enough that we could take the time to make sure that each machine was secure," he says. "We had complete control of every machine that was connected to the Net. That allowed us to configure them to the level of security

we felt we needed."

Consequently, the site developer doesn't use firewalls when creating sites for its customers, which include publishers such as Cowles Business Media, which publishes Media Central; The Editor & Publisher Co., which publishes Editor & Publisher Interactive; and Family Information Services LLC , which publishes Parenting Q&A. In fact, the company only recently began to put firewalls in place in its own accounting department.

The precautionary steps that Love does use involve undoing things rather than doing them. He never runs extra programs, is careful to remove anything from the system that isn't needed and, when possible, gets rid of programs that would respond to non-Web requests from Internet users, such as requests for file transfers or e-mail. He also disables the remote family of Unix programs that allow users to activate programs on his server and uses a "wrapper" program to prevent outside access. In addition, Love removes any "network ports"—the computer equivalent of a telephone extension number—that aren't absolutely necessary, to keep interlopers from using them. And he puts heavy restrictions on who can tell the server to run programs.

"It's not just a matter of trade-offs. It's a matter of doing things that would be impossible to do without it."

–ROBERT O'CONNOR

FINDING IT ONLINE

Cowles Media Central
www.mediacentral.com

Editor & Publisher
www.mediainfo.com

InsWeb Corp.
www.insweb.com

The Internet Co. Inc.
www.internet.com

Parenting Q&A
www.parenting-qa.com

"The more programs you run, the more bugs and vulnerabilities your system may have," Love says. "Each program adds an opportunity for human error that can open up security holes."

Love's unusual security measures have two things going for them: they're cheap and they're relatively easy.

"Firewalls are only as good as they are configured," says Love. "A firewall is a set of rules that controls how data moves from one place to another. A single mistake could render the whole thing useless, and [doing it] correctly requires time and money."

He estimates that doing all of the above on a new server takes as little as two hours, although that must be followed by continuous monitoring. And given that wrapper programs are free, there is no additional software expense.

Does it work? Love says the removal-and-disabling technique blocks attacks by the 70 percent to 80 percent of would-be invaders working from popular "cookbook" information about known vulnerabilities.

But Love's tack, as easy and inexpensive as it is, requires him to sacrifice something else: access. Internet Co. customers who want to update or amend files must send changes to The Internet Co. via e-mail or tape. The changes are then entered by Internet Co. engineers. The company also allows customers to send files electronically to a secure FTP server.

"Sometimes they complain [about not having access]," says Love. "But they don't want the responsibility of maintaining the site. Some people care, and we discuss the pluses and minuses."

In the case of Cowles and Editor & Publisher, which wanted to send changes via the Internet, Love built a system that allows them to update files using an FTP server that lives on the actual Web server.

"FTP is well known and well controlled," says Love. "They are not allowed to telnet in."

In the end, Love says his trade-offs work in everyone's favor—his and his clients'.

"Some of our customers feel we have too much security," says Love. "It hampers their ability to work on their Web sites. On the other hand, we're not prepared to take the risks of lowering our security level."

Deciding on security is one of the most tangled decisions that a webmaster makes. For every plus, there is a minus. For every benefit, there is a price. The trick then, for all corporate webmasters, is to make sure the price is right. WM

Daniel P. Dern is an author, speaker and consultant focusing on Internet/intranet benefits, strategies and concerns for businesses and end users. He can be reached via e-mail at ddern@world.std.com *or on the Web at* www.dern.com.

Summary Statistics
Count
% of total
Hourly Statistics

TALES OF Hoffman

When she's not studying the Internet's business potential, Donna L. Hoffman is defending its freedom

By Anne Stuart

If you care about the Internet and commerce or the Net and society, Donna L. Hoffman's research has already touched your life. And if you're serious about doing business on the Internet, her ongoing work could have significant implications for yours.

For several years, Hoffman, a professor at the Owen Graduate School of Management at Vanderbilt University in Nashville, Tenn., has been widely known in Internet commerce circles for her groundbreaking research into electronic marketing, business models and metrics. But she became a celebrity even offline in mid-1995, when, with research colleague and husband Thomas P. Novak, she painstakingly debunked Martin Rimm's "cyberporn" study and the resulting *Time* magazine cover article that reported a grossly inflated incidence of pornographic images on the Internet. The following year, Hoffman testified against the Communications Decency Act, warning Congress that the CDA threatened to strangle this revolutionary new medium—not just socially but commercially as well. Both efforts are documented, and the pages are still frequently accessed on the Web site for Project 2000 *(www2000.ogsm.vanderbilt.edu)*, Hoffman and Novak's long-term study of Internet commerce.

For those efforts, *Internet World* named Hoffman "an Internet Hero," and *Newsweek* described her as "one of the 50 people who matter most on the Internet." She and Novak also received the 1996 Intellectual Freedom Award presented by the Tennessee Library Association and educational technology vendor SIRS Inc.

PHOTOGRAPHY BY MARK TUCKER

Hoffman's interest in computers and human behavior dates back to her days as a psychology major at the University of California at Davis in the 1970s, where she spent much of her time doing research in the school's mainframe computer center. At the University of North Carolina at Chapel Hill, she received a master's degree and a doctorate in quantitative psychology—behaviorial statistics. That background, she explains, now allows her "to rigorously study what people are doing online and attach hard numbers to what I find."

Hoffman and Novak, also a management professor at Vanderbilt, met in graduate school. Nearly all of Hoffman's works list Novak as co-author, and it is about Novak she is speaking when she says "we studied" or "our research." Married for 17 years, they live with their 9-year-old son, Nicholas, in a house with so many computers they're considering networking them.

"Companies still are not thinking very carefully about the reasons for going on the Web."

An animated, energetic woman, Hoffman speaks quickly and passionately about the Internet's promise and pitfalls.

WM: *How has the Internet business picture changed since you've been studying it?*

Donna Hoffman: At first, it just seemed like a really good way for anyone to be able to publish anything. It wasn't even commercial, because people weren't charging for the information and you weren't paying to consume it. In fact, [publishing] will probably always be [the Net's] primary use, and that's what makes it so exciting and what has contributed to its phenomenal growth. Anyone can be a provider. Users can also be providers. If that ever became more difficult to do or more expensive, or if the entry barriers rose, I think that would be a disaster for the Web.

WM: *Do you think publishing still holds more promise than, say, electronic commerce?*

Hoffman: From a commercial perspective, I think it's clear that electronic commerce will be an extremely important business model in the future and a key way that firms will look to the Web to provide profitability. However, if the open, decentralized, democratic nature of the Web is eroded, that might have a negative impact on the people online and, consequently, could affect the effectiveness of any business model and the ability of firms to make money online. If we don't achieve critical mass, there will be no successful commercial future for the Web.

WM: *What hasn't changed?*

Hoffman: In the beginning, people were just putting up what we call "Internet presence sites," [which are] just marketing sites or corporate home sites, without any sense of "Why am I doing this?" or "How will this give me a return on my investment?" In most cases, [the underlying thought was], "We need to do this because everyone else is doing it." And I think that's still pretty much the case. Companies still are not thinking very carefully about the reasons.

WM: *Isn't that changing after they've been online awhile? When companies upgrade from marketing sites to transactional or service-oriented ones, most must have some kind of strategy in mind.*

Hoffman: It's hard to say if that changes once a company has been online. Some firms hop on the Web, find out how hard it is to keep up the site and then decide it may not be worth it. Their sites turn into dusty graveyards, and the opportunity for learning and exploration is lost. Others realize that, as with any business effort, their Web presence needs to be driven by a strategy, so they start to think about using the Web strategically. But it isn't necessarily transaction-oriented. In fact, for most, it tends to start with efficiency gains: "How can I use this to save money?" Then they find that they can interact with constituency groups, not just push content out more cheaply.

WM: *You've identified a variety of Internet business models. Let's talk about the strongest ones. Are Internet presence sites among them?*

Hoffman: Those could be very successful. We just have to find a way to measure their effectiveness. They certainly could contribute to ROI in a number of ways: through consumer awareness, recognition, encouraging brand loyalty, things like that. I think they have a role to play, and if you look at them from that perspective, they are worth the investment. But we have to come up with measures that management will feel comfortable with so that they will look at it that way.

WM: *What models haven't worked?*

Hoffman: Well, I think there are really only three broad classes of ways to make money: advertising, transactions and fees. Right now, we know that fees are having a hard time, transactions are ahead of their time and advertising is where the action is currently but may not be where the future lies.

We thought, as many people did, that subscription or fee-based services would take off as soon as more secure protocols were available—which they are. But in fact, as everyone knows, they have not taken off. I think we all underestimated people's reluctance—in fact, patent unwillingness—to pay for information.

WM: *It sounds as if to be successful you're going to have to combine several models.*

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CURRENT ISSUE

POWER is a Beautiful Thing

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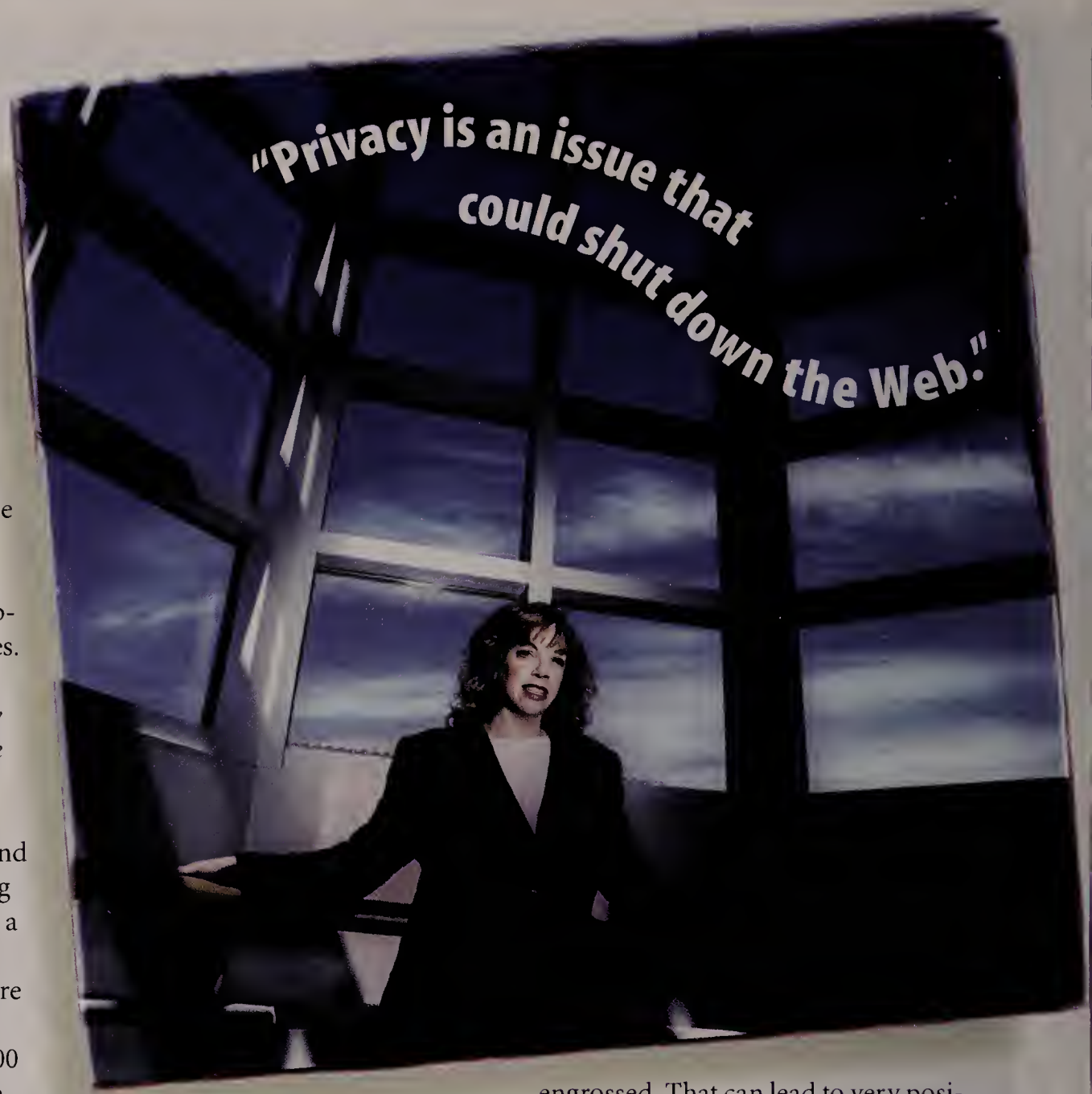
Hoffman: I would argue that that's right. The ultimate goal, the strategic goal, should be an integrated destination site, a place a consumer goes that has all those things. It would have a combination of transactions for revenue, advertiser support for revenue and some sort of fee-based content for revenue. There's some content to consume because that's what would keep you coming back. There's something to be sold because that's really how you're going to make money—the transactions. And then there's advertiser support to get you through the lean times.

WM: *Tell me about Project 2000. I know it's in the preliminary stages, but what are some of the things you're working on?*

Hoffman: One is trying to understand what makes for successful advertising online. We have a major project with a proprietary database provided by Focalink Communications [a software vendor specializing in Web ad management tools] that has more than 600 commercial Web sites. We have quite a bit of information on the advertisements that go on those sites. In addition, in collaboration with Jupiter Communications, we have the revenues for those sites, which is also proprietary information. So we'll be analyzing that [to see] what types of sites seem to be successful in generating revenues from advertising and what are the elements of that success.

Also, one of our early theory papers proposed that people get into "flow" when they're in online environments. Now we're actually going to test our theories by measuring people's behaviors in online environments. One outcome of that, we hope, will be a a survey instrument that we would make available on our site. Anyone could use it to test what consumers on their own site do, to see how well their site measures up from that perspective.

WM: *Let's talk more about the idea of flow. Can you define that and tell me why it's important?*


"Privacy is an issue that could shut down the Web."

Hoffman: Flow is the process of optimal experience, the sense of complete and total immersion in what I'm doing. It has a very strong intellectual or cognitive component, but it also has sensory components—I'm enjoying it.

Total immersion is important because research has shown that there are many positive consequences of being in the flow state. For example, I'd be more likely to remember whatever it is I saw while I was [at a site] and have greater retention. This could have obvious implications for brand names and advertisements. It also suggests that consumers will be more likely to come back and stay longer.

In the flow experience on the Web, you sit down to surf or to specifically search for something, and you look up and two hours have gone by. Notice that while you were there, you weren't in a trance; you were doing something. You remember what you were doing. It was very acutely enjoyable, intrinsically interesting. You were very engrossed. That can lead to very positive outcomes for marketers if they can figure out ways to construct sites to induce this experience. So what we're trying to do in this pretest and then in the formal experiment is see what the elements of inducing it are.

WM: *Human elements or electronic elements?*

Hoffman: We think there are two issues. One is that some people are probably more likely to get into the flow than others, so there's some individual characteristics [that affect it]. But, clearly, some sites are going to be better at inducing flow because they're set up to navigate in ways that facilitate it.

WM: *As the CDA debate approaches the Supreme Court, what impact has it had on Internet life and business so far?*

Hoffman: There's been a lot of discussion about rating systems. Things like PICS [Platform for Internet Content

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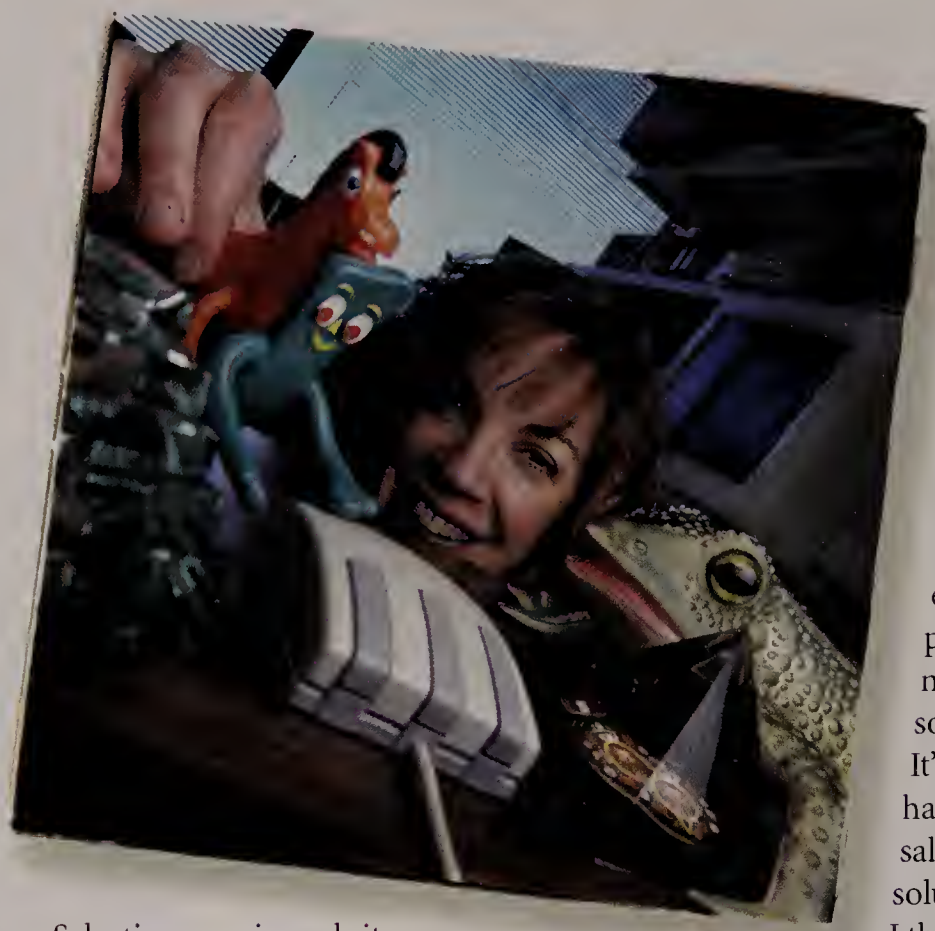

Selection, a universal site-rating and access technology], for example, are considered to be viable alternatives. From my perspective, the appropriate approach is to put the control in the hands of the user to make those decisions.

The other big impact is that the judges in particular and the public in general have been educated about the Internet. My sense is that a lot of that has come from the CDA trial and that we have been effective in saying, "This is what it is; this is what it is not. There are real concerns, but there are ways to deal with them, and we have to do it by discussion and talking and thinking about options."

WM: *Do you expect that the Web will see something beyond the current voluntary self-rating systems, maybe more like the new TV ratings?*

Hoffman: There are already efforts underway to "rate" content on the Net, and I think all commercial sites will have to worry about this. I would hope that the Web does not standardize on something as stupid as the new TV ratings, but then, who can perfectly predict human behavior?

WM: *Let's talk about the cyberporn case. Has the Internet's reputation suffered permanent damage from that or has the study been so completely and widely discredited that nobody pays attention to it anymore?*

Hoffman: In my opinion, it's been thoroughly discredited. However, it still keeps popping up. Every now and then, somebody cites it. It's obvious that it hasn't been universally accepted as absolute hogwash. And I think there has been enormous damage that will never be undone because of what has happened in Congress.

WM: *At this point, what's the biggest problem for the Web and commerce?*

Hoffman: Privacy. Absolutely. I think that's an issue that could shut down the Web. We've talked about the great advantages—that we can get closer to the customer than ever before, users can be providers and we can talk to each other. But none of that can happen if we don't know each other. The marketer has a need to know. It's not a right to know, but it's a need to know in order to deliver services and goods at a profit. On the other hand, the consumer has a right to privacy. Not just some sort of desire for it—a right.

"I would hope that the Web does not standardize on something as stupid as the new TV ratings."

WM: *So how do you find that balance? And what do you think of ETrust [a set of rules for security and privacy developed by consumer and industry groups]?*

Hoffman: To me, the key to balance is fairness. The business needs to know who is coming to the site and what they are doing there. Consumers need to know that they can trust the business to treat them fairly. This sort of relationship implies a partnership where both sides are educated as to the needs of the other. At a minimum, this means a clearly stated privacy policy that allows consumers to choose if they want to participate in the commercial activities of that site. ETrust is a step in the right direction.

I'm very disappointed that business absolutely has not taken a leadership position and said, "OK, we're going to figure this out. We're going to set some standards, we're going to set some privacy guidelines and we're going to confront this issue openly, directly and head-on. We're going to self-regulate." They are not doing that. Instead, the Federal Trade Commission, which has expressed enormous interest in this issue, has held some hearings. They're not regulating yet, but they've clearly signaled their interest in doing so if business continues to misbehave.

WM: *Why hasn't business taken the lead?*

Hoffman: I don't think we're talking about evil people here. I think we're talking about a real misjudgment about the big picture. They're more focused on day-to-day operating issues: "How do we keep the site up and running, how do we justify it, and how are we going to make any money?" Those are all good questions that they should be worried about, but I think there's a long-term strategy: "How do we make sure this is a viable medium?" Then we can worry about the short-term, day-to-day issues. WM

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INFORMATION ARCHITECTS CREATE BLUEPRINTS THAT LET USERS EASILY NAVIGATE THEIR OWN PATHS TO KNOWLEDGE **BY MATTHEW CUTLER**

Modern Architecture

ast winter, while planning a ski trip, I visited a well-known New England resort's Web site to get directions from my home in Boston. The site visit turned out to be an unnecessarily tricky maneuver forcing me to slalom through five image-laden pages before reaching the single paragraph I needed. The resort's proximity to the region's biggest city should have reduced my search to a single click, a straight run from the home page. Instead, with my relatively slow dial-in connection, the task took about 10 minutes, leading one colleague to quip that the resort must have modeled the Web site after its similarly Byzantine automated telephone information system. That's a classic example of shaky information architecture.

At the other end of the spectrum, at the Microsoft Corp. Web site, I usually jump straight to the document or article I need, even though the software giant's site houses many thousands more pages than the ski resort's. That's an example of solid information architecture, noteworthy because it not only works but works well.

What exactly is information architecture? For webmasters, it is the thoughtful arrangement of large volumes of information so that users can navigate their sites easily and effectively. If that sounds suspiciously similar to site design, the topic of last month's column ("Designer Label," *WebMaster*, March 1997), it's because the two functions are closely related. In theory, they should be complementary. In practice, the line between them often blurs.

It's up to the webmaster to recognize the difference, understanding not only how to display content to reinforce the site's overall visual identity (design) but also how to organize the space logically for user navigation (information architecture). To put it another way, site design leaves users with no question about whose site they're visiting or what they're viewing there; information architecture leaves little question about where they are on the site and where they need to go.

Terry Swack, head of Web site design company TSDesign and Webmasters' Guild national vice president, has one recommendation for every organization planning or maintaining a large Web site: "You need an information architect on your team." Richard Saul Wurman, author of *Information Architects* (Graphis Press, 1996), defines that person in part as "the individual who organizes the patterns inherent in data, making the complex clear" and "a person who creates the structure or map of information which allows others to find their personal paths to knowledge."

Part 6

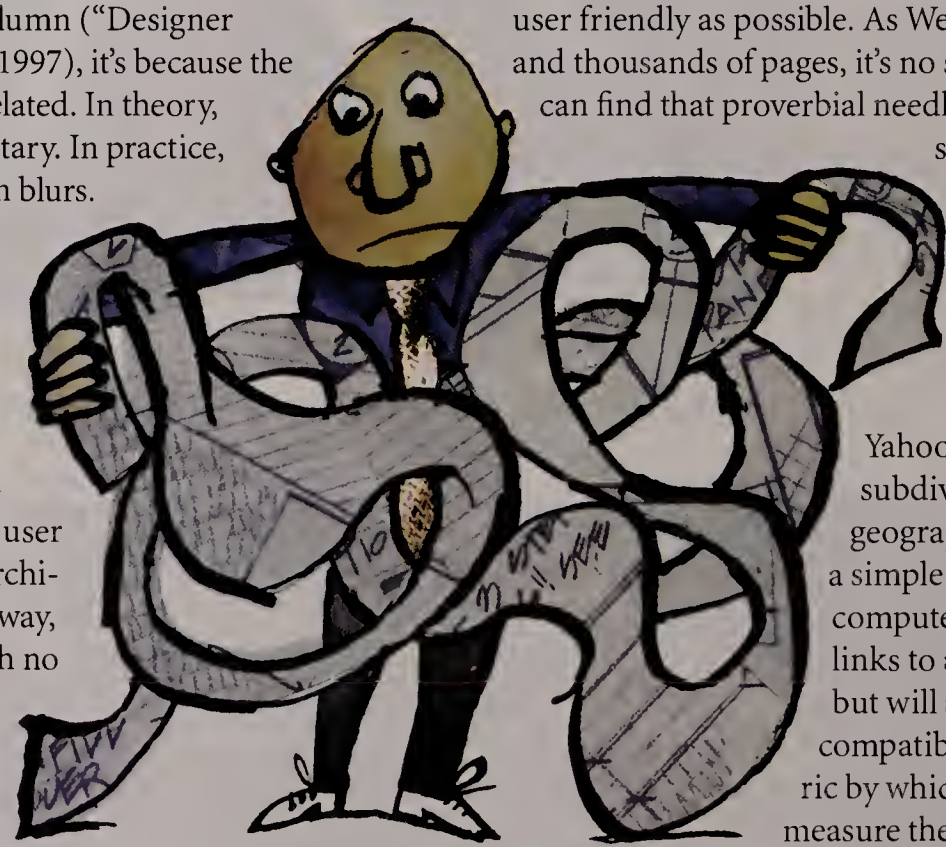
INFORMATION ARCHITECTURE

This is the sixth in a seven-part series in which Webmasters' Guild President Matthew Cutler discusses the tasks and responsibilities of the webmaster function.

WEBMASTERS' GUILD

But like webmastery itself, the task may be better viewed as a function: a collaboration of designers, content providers and technologists. As information architect, the webmaster must simply create a floor plan that's as user friendly as possible. As Web sites grow to thousands and thousands of pages, it's no small task to make sure users can find that proverbial needle without digging through several tons of hay—and without getting lost or wondering whether they've wandered off the site.

In a sense, search engines represent the essence of information architecture. Yahoo, for instance, divides and subdivides data by subject and geographical location. On Infoseek, a simple search for, say, "Compaq computers" will not only provide links to and about the manufacturer but will also compile a list of "IBM-compatible" resources. A critical metric by which the major search engines measure their performance is how few



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pages the average user views before leaving. The faster users quit searching, the better, because that means they've found what they're seeking and are free to consume content elsewhere. And that's information architecture in action.

Ideally, of course, building a solid information framework should be part of the Web strategy right from the drawing board. The guiding principle should be to build in a sense of hierarchy, a concept of where each item ranks in importance and relation to everything else. Building in organization from the blueprint stage prevents common architecture flaws that can weaken a site later and require hasty, major remodeling jobs. The most common built-in error, Swack says, is making the virtual environment mirror the physical organization's administrative structure rather than organizing it logically for user convenience. Or, as seems to be the case with the ski resort, copying the pattern of a clunky voice mail system.

Of course, many organizations' initial sites were so small and were cobbled together so quickly that they launched with no formal information architecture. As those sites now fall victim to the cyberspace equivalent of suburban sprawl, their creators must undertake serious rehab work. Everywhere on the site, and particularly on the home page, it's critical to correctly balance the amount of information and number of choices available to users. The goal is to provide enough information for visitors to decide easily where to go next but not so much that they get overloaded, confused or sidetracked.

When remodeling a site, information architects should first reexamine its underlying business reasons and, with those in mind, look at how content is organized. Is the structure in line with business goals or just with the organizational hierarchy? Will potential customers looking for specific solutions immediately locate what they want, or will they be forced to play information detective? Site architects should examine the major information categories, adding, deleting and renaming as necessary. Finally, they should rearrange the content in each category to reflect the site's overall business objectives.

Of course, as with design and content creation, information architecture is a job that's never finished. And like any other construction project, it requires the proper equipment. In this case, the toolbox includes implements for usage analysis, content management, revision control and site mapping. Usage analysis tools help Web developers instantly pinpoint a site's most highly trafficked spots and track user patterns for reaching them. Such a tool would, for instance, tell the ski resort's webmaster that most visitors just want directions and that most of them are coming by car from Boston.

Other products, particularly useful for large Web sites, include content-creation tools that integrate and show relationships among various parts of the site, and content-management tools that help unsnarl the tangles of document linking and revision control. Site mapping provides an exceptionally useful way for developers to organize Web sites by providing a visual display of everything on the site, showing where each item ranks in the hierarchy and how it relates to everything else. Some mapping tools include link-maintenance features that let webmasters locate and fix problem links to keep users from taking unwieldy paths or hitting dead ends.

So where do you find the Web's finest architecture? In an online seminar on the subject, Paul Kahn of design company Dynamic Diagrams Inc., provides links to some top-notch examples. Among them are the minimalist Fitch Inc. home page, the audience-savvy Iomega Corp. site, information-rich sites like Travelocity and CNN Interactive, and the searchable, sortable Forbes Four Hundred List Generator page.

Wurman, the author widely credited with creating the term "information architecture," describes the architect's role as "an emerging 21st century professional occupation... focused upon clarity, human understanding and the science of the organization of information." For the time being, the Web team remains responsible for taking that approach online. It's up to the webmaster to make sure that users find what they need—whether it's a contact name, a technical document, a news story, a stock price or driving directions—quickly, efficiently and without getting lost. WM

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www.cnn.com

"Designing Information Architectures" (Paul Kahn's online seminar)
www.dynamicdiagrams.com/seminars/wwwarch/analysis.htm

Fitch Inc.
www.fitch.com

The Forbes Four Hundred List Generator
www.forbes.com/Richlist/richquer.htm

Iomega Corp.
www.iomega.com

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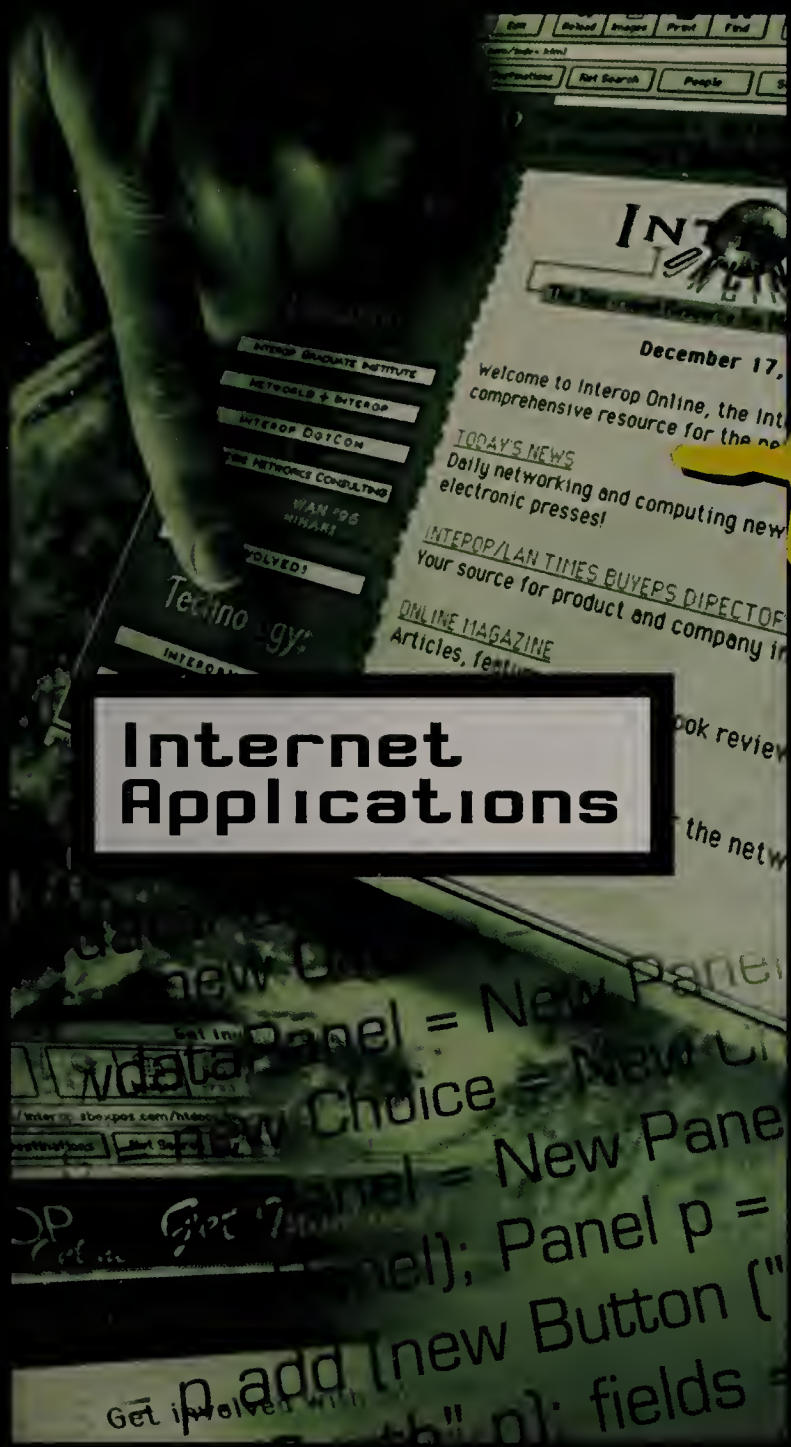
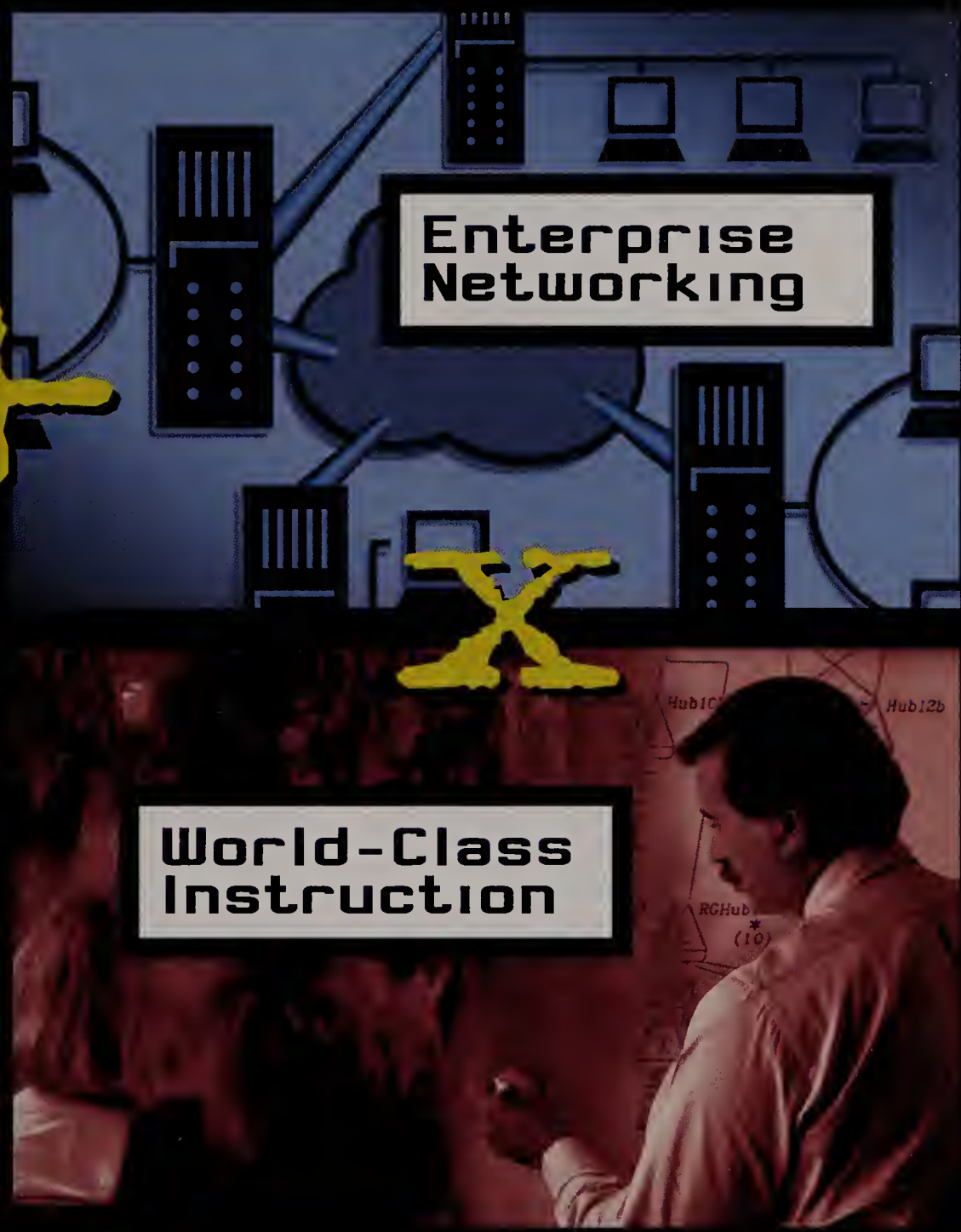
www.travelocity.com

*Matthew Cutler is president of The Webmasters' Guild Inc. (*www.webmaster.org*), the country's first professional organization for webmasters. The guild is a nonprofit organization dedicated to educating, promoting and unifying the global webmaster community. Cutler is also a founder and director of Net.Genesis Corp. (*www.netgen.com*), a provider of Web performance and usage analysis software. He can be reached at* mcutler@webmaster.org *or* mcutler@netgen.com.





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American Express Co. 16
AppliedTheory Communications Inc. 26
ATLan Ltd. 64
Banco de Crédito e Inversiones 22
Banque Paribas 34
Be Here Corp. 64
Bloomberg LP 6
Boeing Co., The 8
Brøderbund Software Inc. 26
Cable Aconcagua Televisión S.A. 22
Cambridge Scientific Abstracts 34
Compañia de Acero del Pacifico S.A. 22
Cerveceria y Malteria Quilmes S.A 22
Christian & Timbers Inc. 8
Cisco Systems Inc. 16, 40
CMP Media Inc. 14
CommerceNet Consortium 16
Connect Inc. 26
Coopers & Lybrand LLP 16, 34
Cowles Business Media 40
Cowles/Simba Information 34
CyberCash Inc. 64
Deloitte & Touche LLP 40
Delphi Consulting Group Inc. 8
Dow Jones & Co. Inc. 6, 34
Dun & Bradstreet Inc. 6
Dynamic Diagrams Inc. 56
E-land 6
Eastman Kodak Co. 26
Editor & Publisher Co., The 40
Electric Minds Inc. 14
Electronic Frontier Foundation, The 16
Exec-U-Net Inc. 8
Family Information Services LLC 40
Federal Express Corp. 26
Filez Corp. 64
Firefly Network Inc. 16
First Data Corp. 34
Fitch Inc. 56
Focalink Communications Inc. 48
Forrester Research Inc. 26, 34
Giga Information Group 26
Gradient Technologies Inc. 40
Hammock Publishing Inc. 34
Holiday Inn Worldwide 26
IBM Corp. 64
ICat Corp. 8
Individual Inc. 34
Inference Corp. 26
Infoseek Corp. 16, 56
InsWeb Corp. 40
Internet Co. Inc., The 40
Inventica Computacion S.A. 22
Iomega Corp. 56
Jupiter Communications LLC 48
Lucent Technologies Inc. 34
Management Recruiters Intl. Inc. 8
McDonnell Douglas Corp. 8
McGraw-Hill Companies Inc., The 34
Meta Group Inc. 8, 26
Microsoft Corp. 16, 56
Midwestock 26
Nabisco Inc. 8
Netscape Communications 26, 40
Oracle Corp. 22, 64
ORB Communications & Marketing Inc. 8
Pennsylvania State University 40
Playboy Enterprises Inc. 14
Portland Software Inc. 64
Procter & Gamble Co., The 8
Progressive Networks Inc. 8, 40
Quote.com Inc. 14
Rockwell International Corp. 8
SAP AG 8
Sears, Roebuck and Co. 16
Security Dynamics Technologies Inc. 40
Sematech Inc. 34
SIRS Inc. 48
SoftTek Inc. 26
SpaceWorks Inc. 64
Sun Microsystems Inc. 16
Symantec Corp. 26
TAC Systems Inc. 26
Taxware International Inc. 64
Telecommunications Reports International Inc. 8
Time Inc. 14
TSDesign 56
United Parcel Service 26
UUNet Technologies 16
Warner Music Group Inc. 14
Well Engaged LLC 14
Whole Earth 'Lectronic Link Inc., The 14
WingsNet Inc. 34
Worldwide Broadcasting Network Inc. 34
Yahoo Inc. 56

Advertiser Index

American Power Conversion 17
Apertus Technologies Inc. C3
BMC Software Inc. 53
Brightware Inc. 45
CIO Communications Inc. 55, 63
Computer Associates Intl. Inc. C2
Computer Museum, The 61
Electric Press Inc. 23
Genuity Inc. 11
Inlet 51
Ironlight Digital 13
Lotus Development Corp. 20
Lucent Technologies Inc. 32
OnLive Technologies 5
PC Expo 57
Prosoft I-Net Solutions Inc. 39
Sarrus Software Inc. 43
Silicon Graphics Inc. 3
Softbank Expo 59
Sun Microsystems Inc. 25
UUNet Technologies 19
WebMaster Inc. C4

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THE COMPUTER BOWL

The sharpest minds in the computer industry today go head-to-head in a raucous game of ultimate computer trivia. The 1997 Computer Bowl, with celebrity host Robert Urich, April 18th at the Santa Clara (CA) Convention Center and The Computer Museum, Boston. All proceeds benefit The Computer Museum's educational programs.

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Test your wits now — play The Computer Bowl online at Internet Shopping Network, www.isn.com.

Sponsorship and seats are limited. Call now, 415.323.1909, browse www.tcm.org or e-mail, allison@tcm.org, for ticket or sponsorship information.

The Computer Bowl contest is taped for broadcast as a special edition of PBS' "Computer Chronicles," airing the week of June 3rd. Check your local PBS listings

Continued from Page 64

SOFTWARE SAFARI

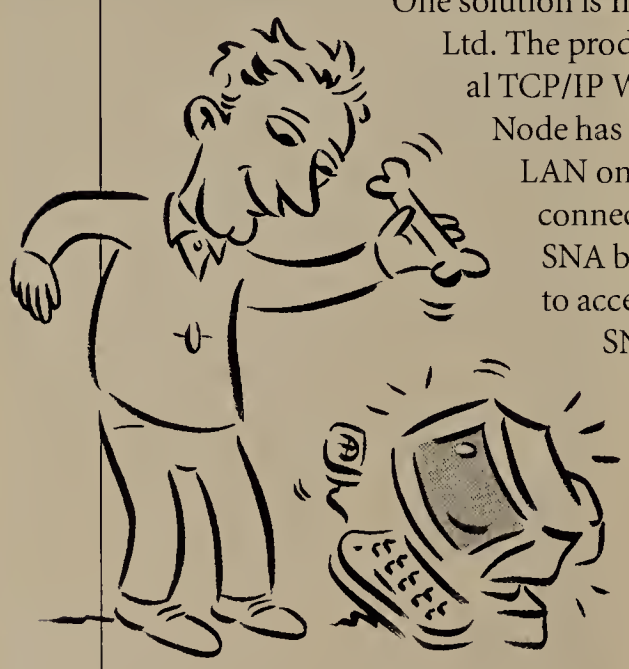
If content is king on the Internet, software is at least duke. But while dozens of search engines excel at routing out World Wide Web pages, until recently there's been no way for seekers of software and games to locate FTP sites.

Now comes Filez Corp.'s Filez, the first commercial search engine to focus on the software side of things. Filez indexes thousands of software sites and millions of files containing software, games, graphics, sounds, movies and musical instrument digital interface (MIDI) files. The tool regularly catalogs freeware, shareware and commercial servers; users can search for files specific to an operating system or for certain types of files, or they can select only servers with certain domain endings. Filez also lets users search large corporate sites, such as those for Microsoft Corp. and Apple Computer Inc.

In addition, users looking for software on a site that lacks search capabilities or is too busy to be accessed can employ Filez to get them right where they're going. The service is free to users. To check it out, hang ten to *www.filez.com* or call 619 581-1931.

SMART NETWORK TRICKS

How do you teach an old IBM shop new tricks? Specifically, how do you build an intranet based on Internet standard TCP/IP in a company that is married to SNA, IBM Corp.'s mainframe network standard?



One solution is IntraNode connectivity software from ATLan Ltd. The product essentially makes SNA look like a virtual TCP/IP WAN from the LAN perspective. Once IntraNode has been installed on a distributed intranet, the LAN on which the intranet runs is automatically connected to the virtual TCP/IP WAN over the SNA backbone. Employees can then use browsers to access the mainframe through any standard SNA gateway, as well as communicate smoothly with remote intranet Web servers. The network can be hooked up to the Internet using a single secured high-bandwidth connection.

For more information, visit ATLan on the Web at *www.atlan.co.il* or call 011-972-3-647-4490.

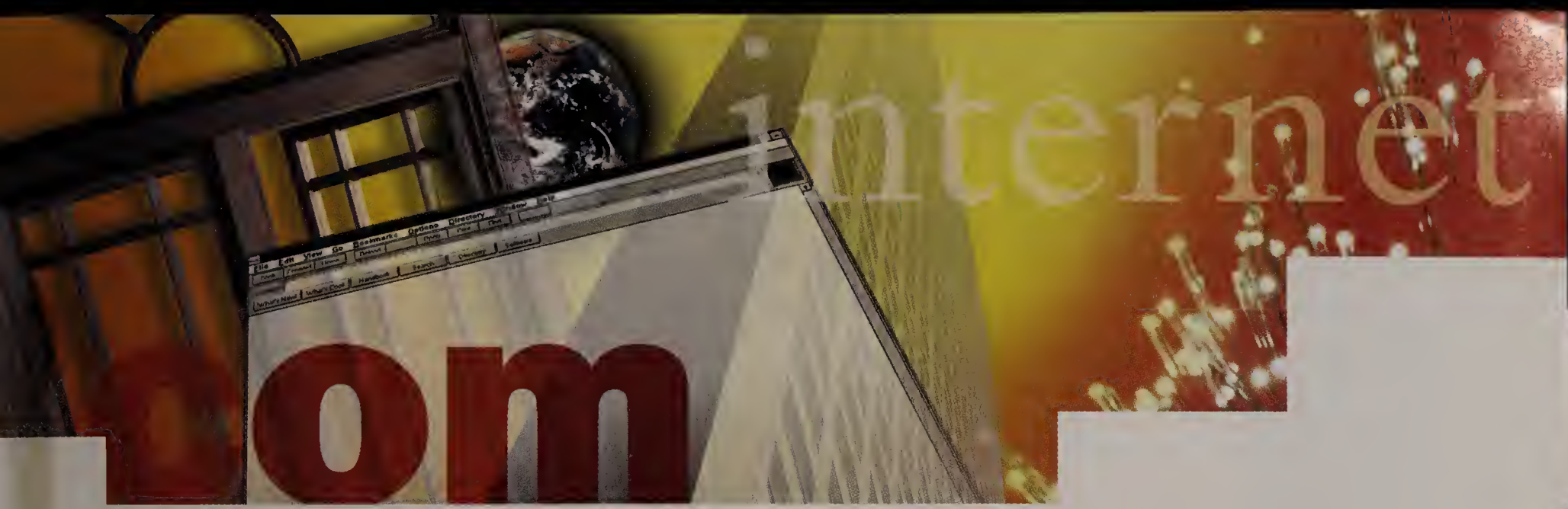
BYE-BYE PHONE

The goal of Internet commerce is to get as much of the buyer-seller relationship online as possible. The goal of SpaceWorks Inc. is to arrange it so that neither party ever has to pick up a phone.

SpaceWorks' OrderManager provides a wholesaler and its resellers with a complete electronic ordering, supply and fulfillment channel that links to the wholesaler's back-office legacy system. Wholesalers can designate product allocation in real-time, automatically fulfill orders and ship products directly to buyers sans telephone calls, paperwork and processing delays. Customers enter their own information on-site, so there are fewer errors and more time for productive activities.

SpaceWorks' ChannelManager allows manufacturers to distribute sensitive product pricing and sales information to authorized dealers, third-party agents and field marketing offices and to automatically process incoming requests. Vendors can offer dealer-specific pricing and targeted promotions, a searchable multimedia database and private interactive message boards. Finally, the company's CustomerManager handles all the data on customer accounts through a single intranet interface. Surf to *www.spaceworks.com* or call 301 251-4136.

ILLUSTRATIONS BY JOHN CLARKE



The more insight you have into what others are doing, the better you can plan and implement your own Internet policies

Until now there have been relatively few accounts of Internet policy benchmarks and trends. That's what makes this "best practices" resource invaluable to anyone who must implement a practical Internet policy or enhance one already in place. This report was pre-released and beta tested by CIOs for clarity and completeness. The result is a reference tool that you can implement within days of reviewing. As a value-added bonus, a sample memo and sample policy guidelines have been appended to the report.

Save $200. As a special offer to *CIO* and *WebMaster* readers, you are invited to purchase "Maximizing The Internet: Policies, Procedures & Best Practices" for $395. This is a savings of $200 off the regular price.

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- How does annual revenue and size of company affect Internet policy making and procedures? Are different industries doing different things?
- Is monitoring effective? What sanctions have been imposed for improper use of the Internet?

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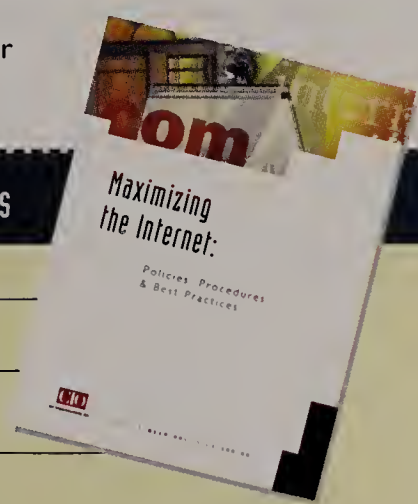

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BEING THERE

What with online trade shows, virtual cities and such, there's less and less reason to walk out the door every morning. But even people who are too well adjusted to substitute a virtual world for the real one should appreciate Be Here Corp.'s goal, which is to make Web environments as lifelike as possible.

The centerpiece of the company's technology is a lens system—usable with standard 35 mm cameras—that helps create seamless 360-degree photographs of any space. Images take only a few minutes to set up and shoot, and they can then be processed and converted into an electronic format for the Web. Linked images create the sensation of traveling from one space to another, and, unlike with conventional still or video images, users have full control over what they see.

Be Here images can be read with any standard Web browser using virtual reality plug-ins. The company is licensing its image-processing software to vertical-market service providers and recently began selling its still-photography image lens. Sites using the product include The San Francisco Traveler *(www.citytraveler.com)* and Builder Online *(www.builderonline.com)*. See *www.behere.com* or call 408 399-1905.

BOLTS OUT OF THE BLUE

So how easy is Web application development? We'll tell you how easy, says IBM Corp.: If you can drag and you can drop, then you can do it.

Big Blue's DataBolts, which will be available as Java Beans or Microsoft Corp. ActiveX components, can be dragged as icons from a palette and dropped anywhere on a site. They address a number of commerce and content tasks; for example, the Query & Retrieval DataBolt can be used to search both public and private databases over the Internet, intranets and extranets. (It also brings in content from other sites whose owners wish to make it available, thus preventing your visitors from becoming someone else's.) The Cryptolope DataBolt, meanwhile, lets content creators encrypt their digital wares for secure distribution over the Net and also provides a way for intellectual property owners to get paid.

Other DataBolts include the Profiler, which allows site owners to deliver content based on visitors' profiles, and the NewsTicker, which provides scrolling, real-time news. Check them out at *www.infomarket. ibm.com* or call 703 205-6000.

Continued on Page 62

SAFE PASSAGE

It's been two years since Portland Software Inc. introduced ZipLock, a technology that allows owners of digital content to sell and distribute their wares over the Net. Now Portland has teamed with Oracle Corp. to offer two application server cartridges for Oracle's Network Computing Architecture. Running as a cartridge on NCA, ZipLock will be able to communicate with other cartridges, such as those from CyberCash Inc. and Taxware International Inc., to provide end-to-end electronic transactions.

Consumers begin by downloading a digital product (software, information, entertainment, etc.) contained in a ZipLock "cyberpackage" from a vendor's Web site to their hard drives. ZipLock scans the drive for memory space and then prompts the buyer for credit card and registration information, which is encrypted and delivered over the Internet to the ZipLock server. The product then strips non-transaction-related information into an Oracle database for report generation and forwards credit card information to a back-end payment processing gateway, such as CyberCash, for authorization and verification. Once the transaction is approved, ZipLock forwards a decryption key to the buyer's computer, which removes the wrapper and launches an install program. An Oracle Universal Server records all data generated during the transaction.

You'll find Portland at *www.portsoft.com* or at 503 220-2300.

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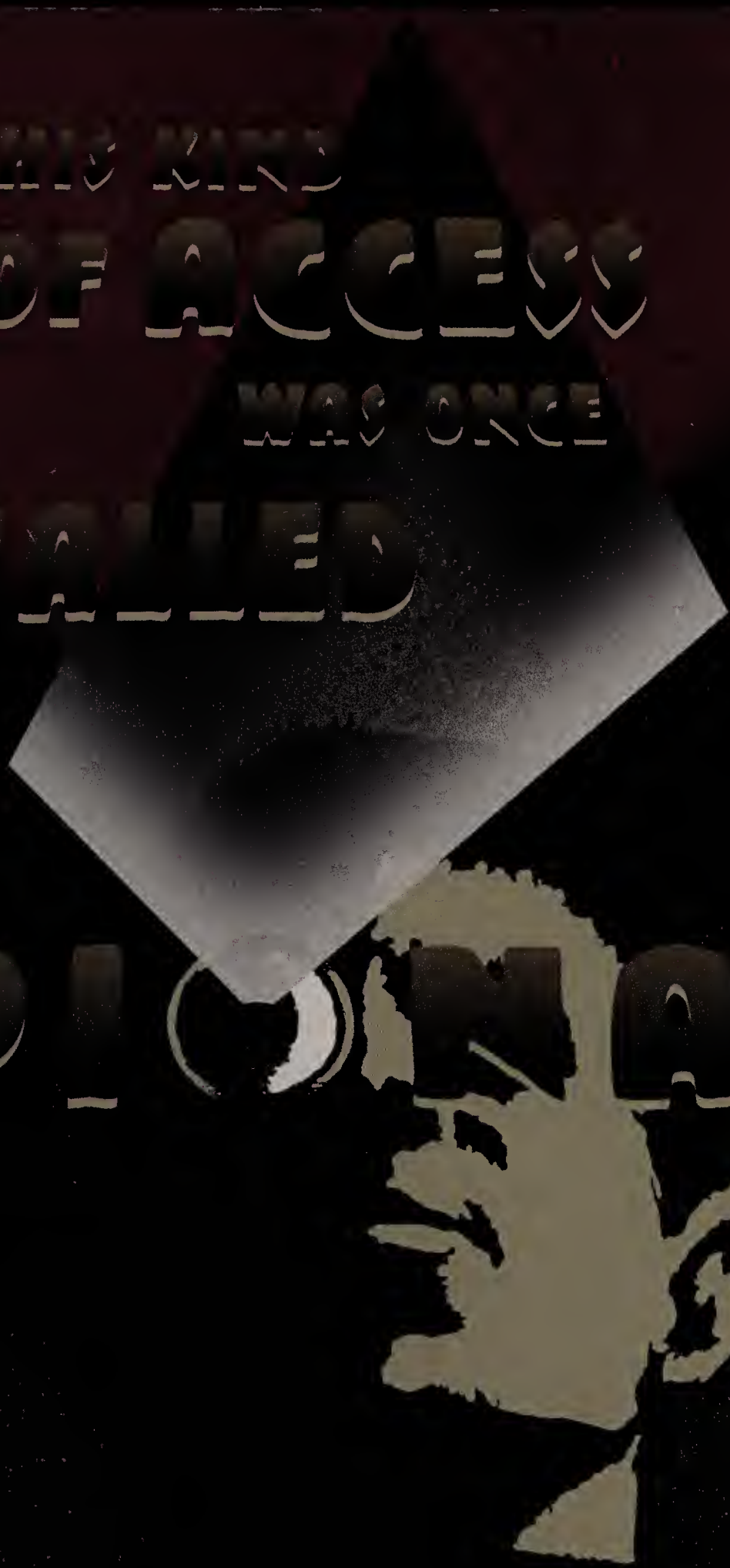

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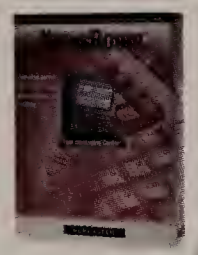

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WEBMASTER'S "WHAT *is* A WEBMASTER?" SWEEPSTAKES

ROUND 3

GRAND PRIZE:

An all expense-paid trip to the destination of your choice*

So, you think you know what a webmaster does? Prove it. Use the attached ENTRY FORM to list three "webmasters" who were featured in the February, March and April issues of WebMaster Magazine — ONE from February, ONE from March AND ONE from April. After you receive the April issue of WebMaster, mail back the completed ENTRY FORM. If the ENTRY FORM has been removed, please contact Karen Fogerty at fogerty@cio.com or your regional sales representative and we'll send one right out to you.

Hint 1:
Webmasters don't necessarily have the title "webmaster."

Hint 2:
Anyone featured in the issue probably functions as a "webmaster."

Hint 3:
Cheating allowed! You can call your regional sales rep or Karen Fogerty at 508-935-4091 if you want to ensure you're providing the right answers.

Happy hunting!

*The prize is a $4,500 travel voucher from American Express Travel that can be applied to any worldwide destination of your choice.

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Kathryn Creech
Vice President of Hearst New Media Technology and General Manager of HomeArts

"WHAT *is* A WEBMASTER?"

SWEEPSTAKES ENTRY FORM

FOR FEBRUARY • MARCH • APRIL

Read through the articles in WebMaster Magazine and list three "webmasters" who were featured in the February, March and April issues of WebMaster Magazine — ONE from February, ONE from March AND ONE from April. After you receive the April issue of WebMaster, mail back the completed ENTRY FORM. Keep in mind that webmasters don't necessarily have the title "webmaster." If you need a little help, feel free to contact your WebMaster regional sales representative — they're very knowledgeable about reaching your target audience!

1. February Webmaster

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Title _____

Organization _____

2. March Webmaster

Name _____

Title _____

Organization _____

3. April Webmaster

Name _____

Title _____

Organization _____

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Title _____

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WEBMASTER'S "WHAT *is* A WEBMASTER?" SWEEPSTAKES

Official Rules • No Purchase Necessary To Enter or Win • All Prizes Guaranteed to be Awarded

1. On an official entry form, hand print your name, title, company name, company address, and business phone number and list three "webmasters," their titles and organization that appear in the February, March and April issues of WebMaster Magazine. You may obtain a free copy of the magazine and an official entry form with rules either by writing to: CIO Communications, Inc., 492 Old Connecticut Path, P.O. Box 9208, Framingham, MA 01701-9208 or by calling (508) 935-4091 or emailing fogerty@cio.com. Only one copy of each issue per individual or household is allowed. Sweepstakes begins 1/1/97.
2. Each entry must be mailed to: WebMaster Sweepstakes, 492 Old Connecticut Path, P.O. Box 9208, Framingham, MA 01701-9208. Mechanically reproduced entries or magazine requests will not be accepted. All entries for the February/March/April Sweepstakes must be received by May 1, 1997. Only entries arriving by US First Class Mail are eligible. CIO Communications is not responsible for postal delays, losses or damages, or for printing or other errors. All entries and requests become the property of CIO Communications and will not be returned.
3. There will be a drawing on May 7, 1997 for the February/March/April Sweepstakes. One Grand Prize consists of a $4,500 Travel Voucher from Thomas Cook Travel. Travel must be completed by August 31, 1998.
4. Winners of the February/March/April Sweepstakes drawing will be selected, from among correctly answered entries, in a random drawing. Odds of winning are dependent upon the number of correct entries received. The winner will be notified by mail immediately following the drawing. Prizes are non-transferable and no substitutions or cash equivalents are allowed.
5. All entrants must release CIO Communications, Inc., and its parent company, affiliates, subsidiaries, advertising agencies, promotion agencies and all others associated with the development and execution of this sweepstakes from any and all liability for damages, losses or injury resulting from acceptance of any prize. Sponsor reserves the right to substitute a prize of equal or greater value. All federal, state and local taxes, gratuities, insurance, travel documentation, incidentals and expenses not specifically stated in the prize description, are the sole responsibility of the individual winners. Winners will be required to verify address and execute an affidavit of eligibility and liability release within 14 days of notification attempt. Failure to execute any requested documents within such 14 day period will result in forfeiture of prize and an alternate winner will be selected. Travel companions of trip winners must be over 18 years of age and will be required to provide proof of age and execute a liability release. No responsibility is assumed for lost, misdirected, illegible, mutilated, postage due or late entries by mail. Entry (and acceptance of prize) constitutes permission to use winner's name and likeness for publicity and advertising purposes without further compensation. Trips subject to availability and confirmation of reservations must be made by August 1, 1998. Certain travel restrictions and seasonal limitations may apply.
6. Sweepstakes open only to advertising agency and corporate personnel who are responsible for the purchase of magazine advertising space who are residents in and of the continental U.S. and 18 years of age or older as of 2/1/97. Employees and their families of CIO Communications, Inc., its parent company, affiliates, subsidiaries, advertising and promotion agencies are ineligible. This offer is void where prohibited or restricted by law, and subject to all federal, state and local laws and regulations.
7. For the name of the winners, send a stamped, self-addressed envelope to: CIO Communications, Inc., 492 Old Connecticut Path, What Is A Webmaster Sweepstakes, P.O. Box 9208, Framingham, MA 01701-9208 by July 1, 1997. Washington residents need not affix return postage.

WebMaster 1997 Editorial Calendar

Issue Date	Advertising Closing Date	Features	Bonus Distribution
Jan	December 9	• Application Development on the Web • Intranet Profile • Distributed Authoring	ComNet, Feb 4 - 6 Internet Expo, Feb 18 - 20
Feb	January 13	• Department of (Electronic) Commerce: The Utilities Industry • Approaches to Web Site Management • Designing Your Intraface	Spring Internet World, March 12 - 14
Mar	February 7	• Field Report: Authentication • The Region Wide Web • Customer Self-Service	CIO Perspectives, March 23 - 26 ICE, April 9 - 11
Apr	March 12	• Function Keys: Engineering • Web ROI • Security Tradeoffs	Networld/Interop, May 6 - 8
May	April 11	• Integrating Your Internet and intranet • The Mobile Mosaic • Making Outsourcing Succeed	WebMaster Perspectives, May 18 - 21 PC Expo, June 17 - 19
June	May 12	• Field Report: Data Mining • Collaboration on the Web • Intranet Profile	
July (Harvey Study Issue)	June 11	• Special Issue: The Web Infrastructure • Integrating Web and Legacy Systems • Planning the Future Web • The Human Infrastructure	Internet Expo, August 13 - 14
Aug	July 15	• Special Issue: The WebMaster 50/50: Defining Web-Enabled Business Excellence • 50 World-Class intranet Sites • 50 World-Class Internet Sites	ICE, September 9 - 11
Sept	August 11	• Schooling on the Internet • The Database Derby • Managing Employee Web Use	Networld/Interop, October 8 - 10 CIO Perspectives, October 13 - 15
Oct	September 11	• The New Librarians • EDI Update • Leveraging Communities for Business	
Nov	October 10	• Health Care Goes Online • Intranet Profile • Function Keys: Sales Support	WebMaster Perspectives, December 7 - 10
Dec (Harvey Study Issue)	November 11	• Five Uneasy Pieces: The Web Debunked • Department of (Electronic) Commerce: Financial Services • Field Report: Telephony	

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